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Railway Age

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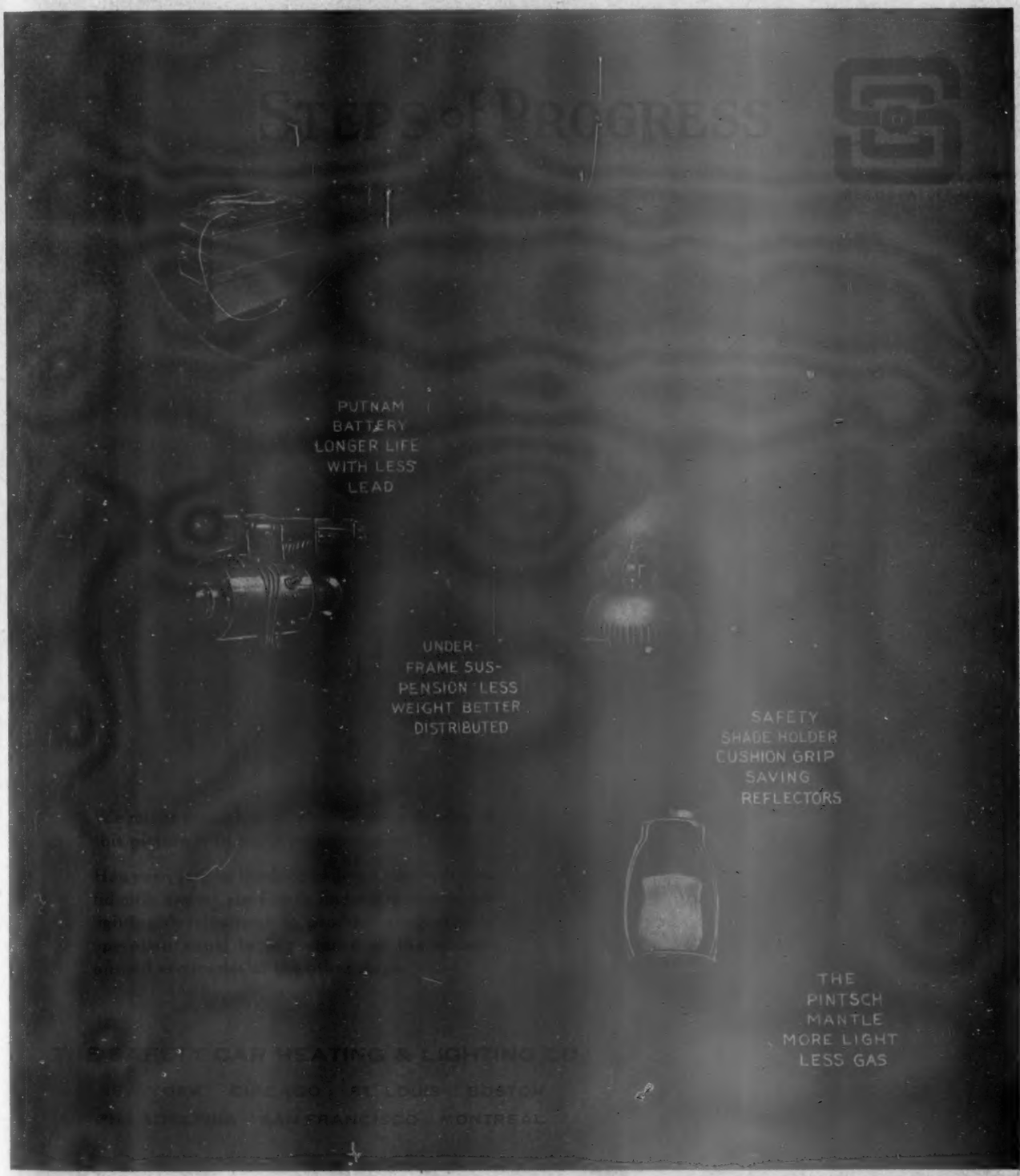

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POLLAK

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EDITORIAL

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Friendly Relationships With Unions

In a recent issue of our British contemporary, the Railway Gazette, appears a brief report of a concert given at Perth, Scotland, in aid of the orphan and benevolent fund of the National Union of Railwaymen which has gone a long way toward its goal of being the "one big union" in the railway industry in Britain. Presiding at this concert was D. A. Matheson, deputy general manager for Scotland of the London, Midland & Scottish Railway. Mr. Matheson holds one of the most important railway managerial positions in Scotland and yet he stands in sufficiently high regard with the members of this strongly socialistic union to be called upon to preside at one of its functions. Other prominent railway officers were present at the concert, showing that the cordial relations between the management and union were not restricted to one officer. Mr. Matheson spoke of the conferences which he had frequently had with union officers and how there had often been disagreement but never any bitterness. This is only one instance of many which could be cited to show that in Britain railway and union officers do not allow their antagonistic social and economic views to interfere with their chief business, which is the efficient operation of the railways under generally accepted standards of justice to employees and owners alike.

Burlington Car Department Asks Questions

The Chicago, Burlington & Quincy has recently developed an educational plan involving the systematic solicitation and answering of questions by car department employees which is novel and holds much promise in the way of increased knowledge and efficiency among these men. Experienced employees will be assisted by the answering of questions which arise in connection with their work, but new men in particular will be benefited and enabled to acquire knowledge of their work far more rapidly than would otherwise be possible. Questions are asked anonymously and are submitted to a special committee which answers them, the questions and answers and in most cases the reasons for the answers being published subsequently in monthly educational bulletins which are distributed to all car department employees (except laborers). While to date this plan has been applied only in the car department the educational committee has received and answered 70 questions, indicating the interest already aroused, and arrangements are now being made to extend this work to the motive power department. Briefly, the plan consists of the distribution of post cards which the men fill out with questions regarding any phases of the work which puzzle them, the cards then being deposited in a question box at the local shop. The fact that the men's names are not shown has been found to bring out many questions which would not otherwise be asked. All questions are referred to a committee of four general car foremen and car inspectors, and the answers are prepared therefore by practical men and expressed in language which shop men can readily understand. Both the questions and answers are printed in bulletin form, perforated so that they can be kept on file and later bound. Each question is numbered and followed with the letter A, B, C, D, or E to indicate whether it relates to air brakes, safety appliances, coach cleaning, shop practice, train-yard inspection, etc. At several points shop meetings have been arranged for the purpose of discussing the questions and answers and these meetings are encouraged as they have proved of material value on account of the improvement suggestions brought out. Further developments of this plan will be looked for with interest by railroad men responsible for employee training.

I. C. C. Makes First Train Control Inspection

It was officially announced by the Chicago, Rock Island & Pacific on December 3, that the final official test of its train control installation had been made on November 30 after representatives of the Interstate Commerce Commission had spent some time inspecting the roadside and engine equipment. The report of the commission's inspection will be awaited with interest since this is the first installation to be passed on by the commission. This report should, no doubt, clear up a number of mooted questions which railroad men have been desirous of having answered in connection with installations of train control. Some of the questions being discussed are the length of overlaps required, whether equipment must be provided to take care of back-up moves and the degree of siding and crossover protection needed. Another subject of discussion is the low and medium speed limits which should be fixed for train operation in train control territory. It is hoped that the commission, when it makes its report public, will include specific information on such subjects which can be used as a guide by other railroads in making their train control installations.

The Work of the Labor Board

A report by Chairman Ben W. Hooper of the Railroad Labor Board on the volume and results of the work of the board is published in this issue. Mr. Hooper indicates that the board has acted on 9,918 controversies between the managements of railroads and their employees and is now catching up with the flood of cases which have been brought to it. The report shows that eight roads have violated decisions of the board, while in four instances the employees have ignored orders of the board by the only means possible—the strike. Considering the period in which this record was made it is exceptionally good and reflects credit on the labor provisions of the Transportation Act. At a time in which the labor problem was more ominous than it had ever been before, the board acted as a buffer between the contending elements and aided in the peaceful settlement of the difficulties. During its history the Labor Board has received its full share of condemnation, both from the roads and the employees. The attitude of a few of the managements toward the decisions of the board is well known. The labor organizations have publicly announced their determination to attempt to repeal the labor provisions of the Transportation Act during the present session of Congress. With all its faults, however, we believe that the Labor Board has proved to be a wisely conceived body, and that its work is worthy of the appreciation of the

railroad managements, the employees and the public. The present scheme of adjudication of railroad labor troubles may not be the best possible, and it may be succeeded ultimately by some other method with fewer faults. During the trying period of recent years, however, the Labor Board has performed a valuable service to the three groups represented in its membership in reducing to a minimum the costly strikes that are always imminent at such times. This service should not be forgotten quickly.

Better Track Foremen Are Needed

An article appearing elsewhere in this issue describes the methods pursued by the Canadian Pacific in obtaining a high degree of economy in rail renewals. While work of this kind shows what can be done through the application of carefully planned methods and reflects great credit on the maintenance of way officers who have put them into effect, the ultimate results are dependent, of necessity, on the type of extra gang foreman placed in direct charge of such work. Furthermore, as extra gang foremen are recruited from the ranks of section foremen, the results obtained are in turn dependent on the kind of section foremen which the railroad is developing. That there are serious doubts regarding the quality of foremen now to be had is indicated by the statement of one track officer who said that with foremen of the class now available best results in section work are secured by the exercise of that degree of supervision by the roadmaster under which he virtually acts as the foreman of each of his gangs with the section foreman himself reduced to the status of an assistant foreman who simply carries out the detailed instructions of his superior. It is entirely possible that good results in track work conducted by the section gangs are being obtained under this plan, but surely the results cannot be as good as would be possible with foremen who are competent to take more direct responsibility for their work and who are of a type that can be promoted to the position of extra gang foremen when the occasion demands.

Careful Whistling at Crossings

The two letters on locomotive signals which appear on another page present some contradictory views. As conflicting ideas fill the mind of everyone who studies the whistle problem, this is not strange. The writer from Connecticut calls for an abatement of noise, while the one from Florida finds satisfaction in sounding two whistle signals where commonly only one is required. There need not, however, be any real conflict. Compromise will be necessary in this matter, if uniformity of practice is ever to be agreed upon, for there will always be those who believe in extreme caution—sounding whistles from ten to twenty seconds, or longer, at nearly all crossings—while also there will always be a demand, a reasonable demand, for the abolition of the noise nuisance as completely as possible. The reasonable compromise is to make the sounds very short (to reduce the nuisance) and then to repeat the signal (repeat a necessary evil) if repetition is really necessary to safety. The Connecticut protest against noise is, we assume, aimed at useless nine-second signals, not at the careful engineman who rends the air for only three seconds. The Florida man would make the signal twice at every crossing, even where both enginemen and firemen might feel certain, from their view of the highway, that repetition would be of no use. His demand for systematic whistling is based on good reasons; and making the whistle-signal alike at all crossings would be a help in cultivating system; but is such extreme uniformity—two signals everywhere—actually necessary? Superintendents who have experimented in this direction would do well to report their experiences. It will be well in this connection to remember the maxim, which formerly was printed in the Standard Code, that a rule which cannot be enforced ought not to exist. The Florida proposal to make longer spaces between the successive blasts of the whistle (in sounding four blasts for a crossing) seems a very reasonable idea. Is misapprehension of the signal common? An automobile driver ought to heed any signal, whether of one blast, or four, or more. Before the present rule was adopted, a crossing signal of one single blast, of moderate length, was common all over the country; and, so far as appears, was as effective as any other arrangement. But practice in making proper prescribed spaces would have useful educational value for a good many enginemen. What superintendent will start a campaign among his enginemen to get his division marked 100 per cent for correct whistling?

Giving Credit to the Employees

President Budd of the Great Northern did well in his address at Minneapolis this week, which we publish elsewhere in this issue, to give credit to railway employees for the efficient service they have rendered in the present year. As he said, the record of railroad accomplishment in 1923 is a splendid one and it has been largely due to remarkable co-operation by the railway managements, the shippers and the railway employees. The year has been exceptionally free from labor controversies and disturbances on the railroads. The employees as a whole have done the best work since 1917. They have not only done better work than in any year since prior to the adoption of government control, but on many roads there has been a restoration of a large part of the good understanding and friendly feelings between the managements and the men that formerly prevailed. Mr. Budd emphasized the fact that the future welfare of the employees as well as of the security owners depends upon the railways being allowed to charge fair rates and enjoy reasonable prosperity. Most railway labor leaders talk and act as if the way to promote the welfare of the employees is to promote political schemes for confiscating the property of their employers. We believe there is a growing realization among the employees that the best way for them to promote their own welfare is to try to increase the prosperity of the railways and not to destroy it.

A Foreman's Opportunity

Perhaps the greatest opportunity for any foreman to serve his railroad is by encouraging initiative in the men he supervises. The proper attitude on the part of a foreman will cause most of his men, possibly including some of the less ambitious, to be on their toes for quicker, easier methods of doing work, thus helping the railroad earn larger dividends and placing themselves in line for promotion. The way this works out in the mechanical department is illustrated by the following actual case: A locomotive shop planer hand experienced difficulty in clamping cylinder castings to the bed of his machine for planing. He performed the clamping operation as he was taught and as it had been done for years, but the casting was large and awkward to aline properly. A complicated system of bolts, straps, blocking and clamps had to be used, and it not only took a long time to adjust and tighten these clamps, but they did not hold the casting securely. As a result, the planer had to be operated at slow speed and with a light chip, making the planing operation unduly long. The planer hand was not satisfied with this particular method of clamping simply because "it had always been done that way." He noted the loss of time in planing cylinders, traced the cause to the difficult and cumbersome clamping, and after

some study discovered that the provision of two lugs on the cylinder casting at the proper points would greatly simplify the clamping. In fact, with these lugs the clamping could be done in a fraction of the time formerly required. The cylinder would also be held more securely so that heavy cuts would be taken and the actual planing operation greatly speeded up. The planer hand explained the idea to his foreman, who saw its possibilities quickly and took the necessary steps to have the cylinder patterns changed and these clamping lugs cast on all subsequent cylinders. While this story has been mostly about the planer hand, much can also be read between the lines about his foreman. Plainly, this foreman did not habitually turn down new ideas; he did not forget them, once explained, or take the credit himself. If he had been guilty of any one of these practices the planer hand would probably have felt, "What's the use?" and would never have bothered to say anything about the lugs. Other railroad foremen can profitably follow the example of this one in encouraging the men to develop new ideas.

Make Them Meet Their Own Issue Squarely

THE *Railway Age* is opposed to a reduction of railway rates at the present time because within the last three years the railways have earned only 4 per cent on their valuation, and in the first nine months of the present year have earned at the annual rate of only 5.26 per cent while handling the largest freight business in history.

The principal reason why their net return is still so small is that their operating expenses are still so high. The principal reason why their operating expenses are still so high is that the wages they have to pay are still so high, and are increasing. The *Railway Age* is also opposed to a general reduction of railway wages at the present time, however. Considering the conditions of their employment, it would be difficult to show that most employees of the railways are now being paid relatively higher wages than those of other large industries.

But general reductions of railway rates are being vociferously advocated by a group of radical public men led by Senator La Follette of Wisconsin, Senator Brookhart of Iowa, and Senator Capper of Kansas, with the support of the heads of the railway labor unions. They have raised this issue. But they are trying at once to press it and to dodge it. They ought to be made to meet it squarely.

The *Railway Age* has no severe criticism to make regarding any man who advocates a substantial reduction of rates if he will at the same time advocate adoption of reasonable and practical means of bringing it about. Men of the classes mentioned are wilfully ignoring the real causes of present rates and the fact that these causes must be removed if any substantial reduction of rates is to be made.

All the advances in railway rates which have placed them on their present level have been made since 1916. In that year they were the lowest in history. The total earnings of the Class I railways in the year 1923 will be approximately $7,800,000 a day more than in 1916; but the railway companies themselves will not be able to retain one cent of this increase in their earnings because their operating expenses and taxes in 1923 will be approximately $7,886,000 a day more than in 1916. The increased operating expenses and taxes will consume the entire increase in the earnings, and something besides.

Why are operating expenses so much higher than in 1916? First, because in the entire year the wages paid will be approximately $4,418,000 a day more than in 1916. The increase in wages is taking 56½ per cent of the entire increase in earnings that has occurred since 1916. The average freight rate is 57 per cent higher than in 1916; the average hourly wage of labor, 116 per cent higher. Consistency requires that every man who is advocating a substantial reduction of railway rates should also be advocating a substantial reduction of railway wages. Are Senators La Follette, Brookhart, Capper, Magnus Johnson, Shipstead, Frazer, Wheeler, Norris, Howell and Dill advocating reductions of wages? Not one of them ever has said a word in favor of it. Most of them were elected largely by the votes of railway employees and other members of labor unions, and they are working in the closest harmony with the heads of the railroad labor unions, most of whom also are attacking railway rates. What a commentary it is upon the sincerity of these radical public men that they are pretending to be seeking a large reduction of railway rates in the interests of farmers and other shippers and that they are at the same time working closely with the representatives of those who are getting 56½ per cent of the increased earnings derived by the railways from the increased rates!

Another reason why the operating expenses of the railways have increased so much is that they will in the entire year 1923 spend about $908,000 a day more for fuel than in 1916. This increase in the cost of fuel is taking 11½ per cent of the increase in their earnings. The principal reason for this increase in the railway fuel bill is the increase in the wages of coal miners. Are those who are advocating reductions of railway rates also advocating reductions of the wages of the miners in order that the railways may be able to get their coal cheaper? Not one of them is.

Another reason why the operating expenses of the railways have increased so much is that they will charge into their operating expenses this year about $1,769,000 a day more for materials and supplies than they did in 1916. This increase in the cost of materials and supplies, which will take 22½ per cent of the increase in railway earnings, has been mainly due to advances of wages in the manufacturing industries. Are any of these men who are advocating reductions of railway rates also advocating reductions of the wages paid in manufactories in order that the railways may be able to buy materials and supplies cheaper? Not one of them is.

There have been increases in other railway operating expenses amounting to about $314,000 a day, or 4 per cent of the increase in earnings.

On top of all this the increase in taxes since 1916 has been $478,000 a day, and is taking 6 per cent of the entire increase in earnings. Are any of these men who are advocating reductions of railway rates advocating also a reduction of the taxes the railways are required to pay out of the earnings derived from the higher rates? We have closely followed what they have said, but we know of no instance in which any one of them has advocated a reduction of railway taxes.

The foregoing statistics account for what is being done with more than 100 per cent of the entire increase in railway earnings that has occurred since 1916, before the rates were advanced; and yet these radical public men who pretend to be seeking a large reduction of rates are not advocating means of bringing about a substantial reduction in a single one of the increased railway costs which have made necessary the present rates!

How, then, do they propose to bring about a reduction of rates? They all agree in demanding as a means of bringing about a reduction of rates the repeal of Section 15-A of the Transportation Act. This section deals with the manner in which the Interstate Commerce Commission shall determine what net return the railways shall be allowed to earn and shall fix rates so that they may be able to earn it. The net operating income earned by the railways in the three years ended August 31, 1923, under the Transportation Act was about $800,000 a day less than it was in 1916, long before the Transportation Act was passed. By the end of 1923

the new investment made in railway properties since the end of 1916 will be approximately $4,000,000,000. The net operating income that the railways will earn this year, however, will be somewhat less than it was in 1916, before this investment was made.

In other words, these men do not propose to take any of the proposed reduction of rates out of the wages of railway employees, or out of taxes, or out of other items of cost which have more than doubled since 1916, but they propose to take it all out of the net operating income, which is the only thing that has been reduced since 1916. It may be replied they have not said this. It is high time, then, that they were made to say exactly what they mean. If the present rates of the railways are too high, then it must follow that the wages of the employees of railways, coal mines and other industries are too high, because they are almost entirely responsible for the present rates. Are those who are advocating reductions of rates in favor of reductions of the wages of the employees of railways and other industries? To evade that question is to evade the real issue raised by themselves. But when confronted with it every one of them will either refuse to answer it, or answer that wages should not be reduced. Why? For the same reason that they have all failed to discuss it up to the present time, viz., that they want the votes of those who actually are receiving the earnings derived from the increased rates as well as the votes of those who are paying them.

But if all of the reduction of rates is to come out of the already reduced net operating income of the railways, how much can rates be reduced? If their net operating income should be wiped out entirely the reduction of rates resulting would average 15 per cent. If their net operating income should be reduced one-third, the reduction of rates would average 5 per cent. If any industry is languishing under the burden of railway rates it will not be revived by a 5 per cent reduction of them.

Suppose that instead of proposing to reduce the already reduced net operating income of the railways by, say, one-third, these radical statesmen should propose measures to reduce wages, other operating expenses and taxes one-third. This would make possible a reduction in all railway rates averaging 27 per cent and amounting to $1,800,000,000 a year. But these politicians manifest no interest in measures the adoption of which would make possible a really substantial reduction of rates. They show interest and zeal only in regard to a policy which could not possibly bring about substantial reductions of rates, but the adoption of which would be wholly unjust to the railways and destructive of their credit, and which would absolutely stop their development.

A finer example of stupid, reactionary and selfish demagogy than the policy with respect to railways advocated by these self-styled "progressives" never has been afforded in the history of the country.

Books and Special Articles of Interest to Railroaders

(Compiled by Elisabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

Annual Report of the Postmaster General for the Fiscal Year Ended June 30, 1923. Mail transportation by railroads, p. 28-30. Railway mail service, p. 38-41. 149 p. Published by the Government Printing Office, Washington, D. C.

Annual Report of the Secretary of the Treasury on the State of the Finances for the Fiscal Year Ended June 30, 1922. See Index under Railroad Labor Board, and Railroads. 976 p. Published by the Government Printing Office, Washington, D. C.

Some Senatorial Views. Senator Norris' Articles in Omaha Bee. Replies by W. W. Baldwin. Direct answers to direct attacks on the Burlington. 41 p. Publisher not given. Probably obtainable from office of Vice-President W. W. Baldwin, Chicago, Burlington & Quincy Railroad, Chicago, Ill.

Periodical Articles

An Aerial Railway for London. New Method of Transport to the British Empire Exhibition. Description, with illustrations of the George Bennie Railplane System. Modern Transport, November 24, 1923, p. 10-11.

A Distinct Step in Progress, by Herbert Hoover. Comment on the Chamber of Commerce's transportation conference. Summary of conference findings, by William Pickett Helm, p. 41-44. Nation's Business, December, 1923, p. 41-44.

The Railways' Valuation Muddle. Claims of the Radicals and the Carriers, by Aaron Hardy Ulm. Article II of series of three articles. Barron's, December 3, 1923, p. 5, 7.

The Stabilizing Influence of Life Insurance Investments Upon the National Economy, by Massey Wilson. "The investment of life insurance funds is coincident with the railway growth . . ." p. 781. Economic World, December 1, 1923, p. 780-782.

The Teaching of Commerce and Economics, by Eliot G. Mears. What is being done and what ought to be done with transportation and other commercial and economic subjects in colleges and universities. American Economic Review, December, 1923, p. 648-651.

Tentative Plans for Political Programs in New Congress. Transportation and other policies as urged by three national parties and twenty-three national organizations. Congressional Digest, November, 1923, p. 44-54, 62-63.

The Trinidad Government Railway, by W. R. Long. History and recent statistics. Commerce Reports, December 3, 1923, p. 637-638.

Where Railways Deliver to Store, by F. C. Horner. Store-door delivery in England. Nation's Business, December, 1923, p. 50.

New Books

Human Effort and Human Wants, by Logan G. McPherson. 5½-in. by 8-in. 318 Pages. Bound in Cloth. Published by Harcourt, Brace & Company, New York.

Mr. McPherson, who is probably best known to railway men as a student and writer in their own field, here presents a book embracing the fundamentals of the whole science of economics. The book was written in the endeavor to present a picture of economic activity as it is—a continual flow—rather than as something static. This attempt has been successful. Unfortunately, however, the author has not, in the opinion of the reviewer, made the science any easier of comprehension to the reader by his method of treating it. The picture presented by Professor McPherson is doubtless nearer the truth than that given in the average text book of economics, but it is much more difficult to understand. The conventional text book, while recognizing that economic activity is in perpetual movement, assumes theoretically that the machine has stopped for a moment in order to give the student an opportunity to see how it is constructed and how the parts work together. With this presentation there is, of course, the danger that the student may never learn to picture economic activity as it really is, in constant motion. On the other hand, however, the static picture is much simpler and offers an approach to the truer presentation which Professor McPherson gives. To one who has done some reading in economics, therefore, this book is of interest and value. To others, unless they are more than ordinarily intellectually curious, it must give the impression that economic science is formidable indeed.

Letters to the Editor

[*The* RAILWAY AGE *welcomes letters from its readers and especially those containing constructive suggestions for improvements in the railway field. Short letters—about* 250 *words—are particularly appreciated. The editors do not hold themselves responsible for facts or opinions expressed.*]

Conical Water Softeners Not New

CHICAGO.

TO THE EDITOR:

In the *Railway Age* of August 4 there appeared an interesting paper by C. R. Knowles descriptive of the water treating equipment now in operation on the Illinois Central. The paper describes the construction of 17 new plants this year which brings the total number on that railroad up to 40, and, best of all, the plants are so located as to make a continuous line of 600 miles of good boiler water from Clinton, Ill., through Freeport to Omaha, Neb.

The new plants are well designed and will doubtless be effective in operation; but for the sake of historical accuracy, I desire to correct the statement that coned bottom settling tanks are used this year for the first time. All of the early steel water softening plants had coned bottoms. I am unable to say when they were first applied, but to my certain knowledge they were in use in France in 1884. In this country water softening plants with coned bottom settling tanks were being built from 1898 onward. Indeed, I believe that at least half of the water softening plants in the country are so equipped.

A round settling tank consists of the vertical cylinder and the bottom, usually either flat or coned. The method of supporting the tank is of no consequence. The tank may have three legs, or four, or six, or as many as will complete the circle and make the support merely an extension of the cylinder; but if the bottom surface supporting the water is an inverted cone, we have a coned bottom settling tank.

The ease of construction in steel and the convenience of having the precipitated sludge from a 12-hr. run all collected in one place from which it can be discharged in 30 sec. by opening one valve, account for the fact that all early steel plants were so made; and flat-bottom settling tanks came into use only when we were called on to design small plants of wood or large plants of concrete. I well remember the problem I had with my first flat-bottom settling tank, to design a sludging system so that it would operate at the same rate over all parts of the bottom and carry off the sludge with a minimum of water. But the first one I built is still in use. It discharges the sludge quite evenly to the level of the sludge pipes, and uses about twice as much water as a cone. It does happen, once in a great while, in the case of water from streams and reservoirs, that something will clog one or two of the holes in the drainage system, but the advantage of the extra settling space more than makes up in practice for these rare obstructions.

It must not be forgotten that a cone also requires nicety of design for this work. Precipitates are sometimes sticky, and unless the angle of the cone is as much as 50 deg. the cone does not always clear itself. Some of the early coned bottom plants are being remodeled each year on this account, and, for the same reason, most designers of steel settling tanks of the past 12 years have built them with flat bottoms and with perforated pipes for sludge drainage.

The sludging operation from a coned bottom tank requires from 20 to 30 sec., and from a flat bottom tank with quick-opening valves about one minute. The end-point (change from sludge to clear water) is very sharp in cone sludging, and less so in flat-bottom sludging; but there is no advantage in the latter case in lowering sludge beyond the top of the sludging pipes, and all local attendants should be instructed to sludge by time and not by the appearance of the effluent.

C. H. KOYL,
Engineer, Water Service, Chicago, Milwaukee & St. Paul.

The Locomotive Crossing Whistle

NEW HAVEN, Conn.

TO THE EDITOR:

The air is charged with the noise and smoke of the battle which rages over the question of how to prevent collisions between trains and automobiles at highway crossings. Sometimes it seems as though our efforts at prevention were only adding to the confusion. It is suggested that improvement will be accomplished by lengthening the sound duration of the whistle warnings, or by reversing the order so that the short sounds come first and are followed by the long blasts at close range to the crossing; make the signal – – ——— —— instead of ——— —— – –.

The relative merits of the nine-second and 14-second crossing whistles are considered and compared. The repetition of the crossing whistle at a point half-way between the whistling post, as located by law, and the crossing, is another suggestion, and all this is in the face of the facts that a very large part of these accidents occur in the daylight hours and on crossings where the view is good. Why any extra warning except as observation makes the necessity apparent? As well cry "Fire" when no conflagration rages as to continue these additional warnings when no automobile approaches.

It seems as though we are asked to believe that a campaign of noise will accomplish wonders in warning automobile drivers that they must look and see where they are going. There is another possible campaign that has not been emphasized. It is a campaign of silence—watchful and considerate silence. What has become of the "honking" drivers who infested the streets and made day and night hideous with their screeching horns a few years ago when there was not a fraction of the automobile travel that now prevails? They have been educated to comparative silence and to watchful care over their own and others' movements. This has been most effective in preventing accidents. The same care and watchfulness on the part of these drivers will secure them against harm at the railroad crossing.

If the tragedy of recurring crossing accidents does not impress upon the minds of automobile drivers the necessity for caution in approaching the tracks, it is useless to think that the scream of a locomotive whistle, or written or voiced appeals will secure a satisfactory answer to the proposition. Too frequently the driver of the automobile is unfair in his treatment of the man who operates the railway train. He speeds up to the crossing and stops without giving any substantial indication by reducing speed that he has seen or heard the train. Such methods lead the locomotive engineer to expect that the presence of the train has been noted, when such is not the case and the warning which might serve a purpose in an emergency fails to materialize in time.

The important thing is to educate the driver of the auto; educate him so thoroughly that he knows what the dangers are and how to conduct himself.

Loud noise is a nuisance. There is a demand for its elimination that is based upon very good reasons. When it so happens that it is the only means of conveying a warning of danger, its employment is certainly demanded; but under very strict limitations. People will put up with a nuisance if they are convinced that it answers to some real necessity,

but will nurse their feeling of annoyance if they feel that the objectionable sound could easily be done away with. Who can blame them?

The number of cases where lowered gates are smashed and where automobiles run into the side of trains is a severe indictment of automobile drivers; what is needed is not lengthening or otherwise modifying the locomotive whistle signals but education of the public to a more careful observance, first of speed and warning approach signs and, second, of those principles of safety that suggest the reasonable use of their own faculties for knowing that no train is approaching. F. W. M.

Careful Use of the Locomotive Whistle

MIAMI, Fla.

TO THE EDITOR:

It has been said that the principal use of the highway crossing whistle signal today is to comply with the laws; laws which require an audible signal from every locomotive which approaches a public highway. Observation convinces me that this is true. Automobile drivers do not seem to pay much attention to whistle signals. Certainly that class which try to beat the locomotives over the crossing do not. There are drivers who make these reckless attempts to kill themselves in broad daylight, when they have seen, and do know, just how near the train is to the crossing.

Compliance with a whistle-law is a good thing even if the warning never serves to call a careless driver to his senses; it is good for the engineman and for the company. Regular attention to the law tends to make a runner systematic and careful in all things.

An engineman who hits anybody on a crossing is quite likely to be accused of having neglected to sound the whistle. He is called to account in court; and in *perhaps a majority of cases* there will be witnesses telling contradictory stories. Some will say that the whistle was blown and some will say that it was not; and the verdict of the jury is likely to be decided by the best guessers among the jurymen, or in favor of the smartest of the two lawyers who have addressed them. In this situation an engineman who is *systematic in his whistling* is a decided asset for his employer. He should be so systematic that he can tell, the next day, even if no accident happened, what he did at a given crossing.

Systematic whistling requires constant surveillance by the road foreman or the trainmaster. Playing with the whistle, making meaningless sounds before or following the proper blasts, is quite common among young enginemen, at times; and is a thing to be discountenanced. The road foreman must call upon all enginemen, young or old, not only to omit all useless whistling but to conform to a *simple* rule; and he must frequently define the rule. Enginemen, like the rest of us, lapse into careless habits unless "jacked up." On the Florida East Coast the rule is to sound the whistle signal *twice;* once at a distance of half a mile and again at ¼ mile.

An officer of this road tells me that this rule is regularly observed. Certainly a repetition is better than the long-drawn-out whistling indulged in on some roads. Systematic whistling means crossing whistles always uniform in loudness and duration.

The two long and two short blasts ought to be made with well-defined intervals between them. I have seen the signal referred to as the "7 signal," referring to the Morse telegraph character "7" (— — - -). A road foreman tells me that experiments made by him prove that the use of longer spaces makes a more easily understood signal; he would make it — — - -.

People everywhere have got used to the regulation crossing whistle, and if the sounds are run together so closely as to convey the impression of one single blast, travelers on the highways may be deceived. Therefore, we should call the signal, in Morse language, not "7" but "t t e e."

"Systematic whistling" includes careful attention to city ordinances; that is, systematic silence where laws require silence. It includes more than that; includes thoughtful consideration of the comfort and peace of mind, not only of city officers who are supposed to enforce ordinances, but of every citizen, night and day. Remember the feelings of people trying to sleep at night, whether the city authorities do or do not issue commands in this respect. The Florida East Coast is well spoken of as regards this feature of whistle practice. The superintendent keeps in touch with his enginemen. No one can say that they become negligent because he neglects to do his duty to them. F. E. C.

More Discussion of Straight Line Locomotive Repairs

CHICAGO.

TO THE EDITOR:

Exum Haas's letter in your issue of November 17 concerning the article appearing in the issue of October 27 on a Progressive System for Locomotive Shops, is good in that it brings out many points open to question.

The variable time required in making repairs to different classes of locomotives was recognized in that only those operations susceptible to fairly close timing were staged. No attempt was made to stage the boiler work, which is the largest single variable. Inasmuch as several roads have successfully operated stripping tracks, this operation was accepted as an accomplished fact. Studies of wheeling, rod hanging, valve setting and brake work show that these operations can be satisfactorily timed. The rest of the repair work was planned according to standard practice. Mr. Haas's thought that the best plan is a combination of the straight line and loop systems checks with the general plan of operation outlined in the article.

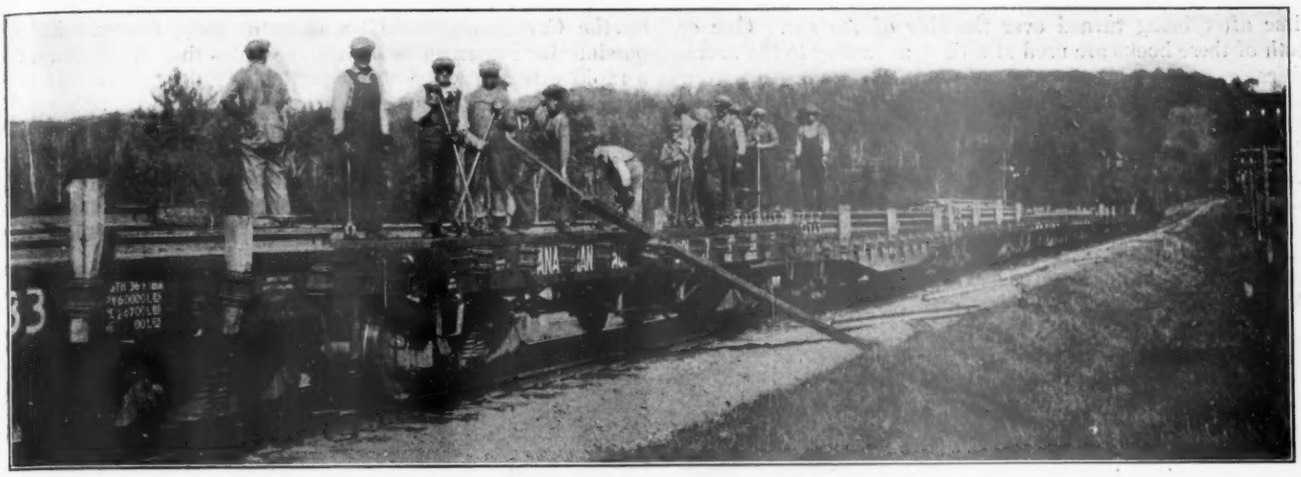
The average footage of movement depends largely on the layout of the shop. The comparison drawn was between methods. To draw a comparison between shops requires actual layouts. Several straight line layouts, however, have shown average footages below any average yet figured for loop shops.

The standardization of parts referred to is especially advantageous in the proposed system in that it eliminates several delays that might otherwise occur. This development is being watched with interest and should bring forth valuable facts concerning class repair output.

The thought expressed as to overhead cranes is a matter of individual preference. Some shops do not have enough room for a transfer table. In such cases, overhead crane operation is the logical answer. There is an additional cost of transfer where the table is used, as stated by Mr. Haas. But this matter was studied and allowances were made based on actual movements.

It is true that at times shops turn out locomotives in bunches. But in most cases, when several are delivered to the roundhouse at a time, the actual breaking in serves to place them in service one at a time. Organizations built up to take care of rush periods operate at reduced efficiency the rest of the time. Since locomotives reach actual service one at a time, why not build up organizations accordingly? Sprints look good, but do not add to the average speed.

LAWRENCE RICHARDSON,
The Whiting Corporation.

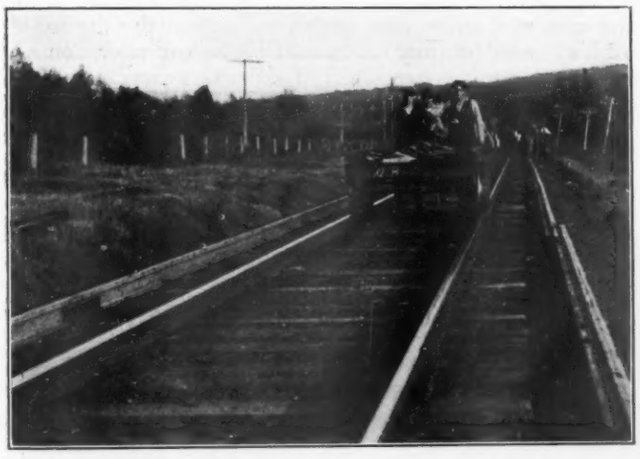


The Short Hooks Are Used Alone in Most Operations

Laying a Mile of Rail Per Hour Under Traffic

Interesting Maintenance Methods Permit the Canadian Pacific to Secure an Increased Mileage

USING SOME UNUSUAL but effective methods, the Canadian Pacific recently laid over 100 miles of 100-lb. rail under traffic at the rate of a mile or more an hour and secured total daily mileages up to 10 miles and over. Rail was laid in units of two rails by double tong gangs



Just in Advance of the Rail Laying Gangs

consistently at the rate of 20 to 21 seconds per rail or at the rate of slightly over one mile an hour. Maximum performances included the laying of one track mile in 28 minutes. Other methods permitted savings in labor for unloading and distributing steel, the rail being unloaded by a small gang and a work train with four men to the car. By the use of roller hooks suspended from the side of the cars it is distributed evenly and close up to the old rail over bridges, trestles and high fills, etc. The work was carried out on a single track line of considerable curvature over which there was a regular and fairly frequent train service.

Since the adoption of 100-lb. R. E. rail in 1921, when 500 track miles were laid in one location, the Canadian Pacific has followed the practice of renewing by sub-divisions, thus allowing considerable leeway in organizing the work. The rail laying described in this article included the work on one single track sub-division totalling 100.5 miles as a part of a program of 500 miles.

As the rail laying is done under traffic the preparation for the work is thorough in order that the actual tasks involved when rail is changed out shall be as few and as simple as possible. In connection with this preparation a number of improvements have been made in the methods for unloading and distributing rail, due to the development of some accessory equipment, principally roller bars for unloading and roller hooks for distributing. In this work rail was received on flat cars with an average load of from 60 to 80 rails. Under ordinary conditions it was simply rolled over the side

Distributing Rail Over a High Fill By Means of Hooks

of the car, remaining on the ballast shoulder. However, when this shoulder was narrow or where there was danger of the rail rolling down into the ditches or where it was necessary, as on bridges and trestles, to leave the new rail close to the old, the special hooks were utilized. These hooks are made in two sizes, a short one and a long one, and are suspended from the stake pockets of the car. Each contains a large roller upon which the rail is supported for a short

time after being turned over the side of the car. One or both of these hooks are used at a time, according to the necessities.

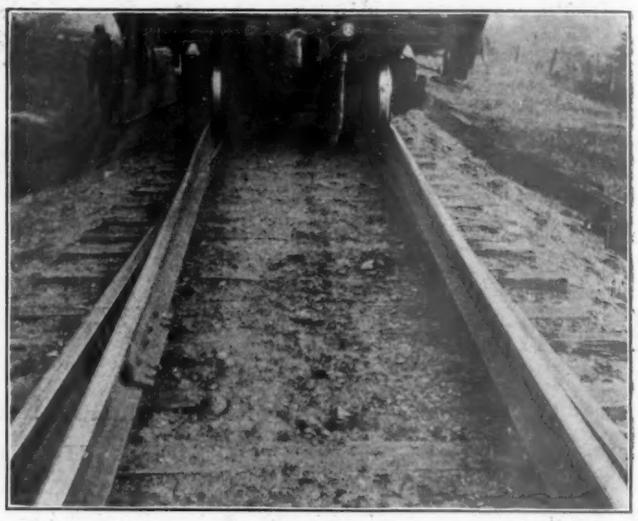
When both hooks are utilized the falling end of the rail drops into the roller of the longer and lower hook, where the full length of the rail is supported for a moment along the side of the car in both hooks, after which it rolls out along the line of the train and with but little drop. The result is that the unloaded steel falls without jar, remains close up to the end of the ties for its full length and, as an added advantage, is evenly distributed. This plan is particularly advantageous on bridges and trestles, where the steel

The Work Train Being Used for Throwing Out the Old Rail

is distributed uniformly, safely and rapidly on the bridge deck without the necessity of any men other than those on the work train. In a recent observation of this work the train moved along steadily at about three to four miles an hour over two successive narrow and high trestles, leaving the new steel properly distributed on each side on the old, and with no damage to the steel or the bridge decking.

The organization for the distribution consists ordinarily of four men to a car and from two to seven cars are unloaded at a time, according to the location and the traffic conditions. With the latter number three cars are unloaded on each side, each car taking every third rail and the odd car filling in misses, dropping extra steel for crossings, switches, etc. The train speed averages about three to four miles an hour, with an average output of from 30 to 70 cars a day on level track in open country to 25 to 30 cars a day in more rugged country.

Due to the use of the special roller bar which was developed on the Canadian Pacific by an extra gang foreman it is possible for four men to handle the unloading of one car at a rapid rate and without any particular effort. This bar is in reality a small, light weight "dolly" with projections to catch under the head of the rail and from either side. By means of this bar two men can roll a rail across the width of a car in quick time and with little physical effort. The organization of four men on a car consists of two men on roller bars, one man with a lining bar to help break the rail



A Close-Up View of the Wheel Action in Throwing Out Rail

loose and to guide it across to the edge of the car, and a fourth man equipped with a rail fork to turn the rail over the side of the car or onto the hooks as the case may be. Two extra men with roller bars are needed to expedite the work on heavy curve territory on account of the superelevation of the track. Thus a complete rail unloading gang handling seven cars consists of the following in charge of a foreman:

Total Men	*Duty*	*Men Per Car*
14	Handling unloading bars	2
7	Assistant on center of rail	1
7	Rail fork turning over rail	1
1	Knocking out stakes on side of car	..
1	Emergency man on ground	..
1	Water boy	..
1	Cook	..
32		4

Double Size Tong Gangs Handled Two Rails at a Time

With this organization a minimum of 30 cars per day of 6 actual working hours is maintained regularly. An interesting sidelight on this method of unloading by the use of roller bars is the absence of personal injuries to the workmen. For example, about 800 miles of rail have been distributed since 1921, without the slightest injury to any of the men employed.

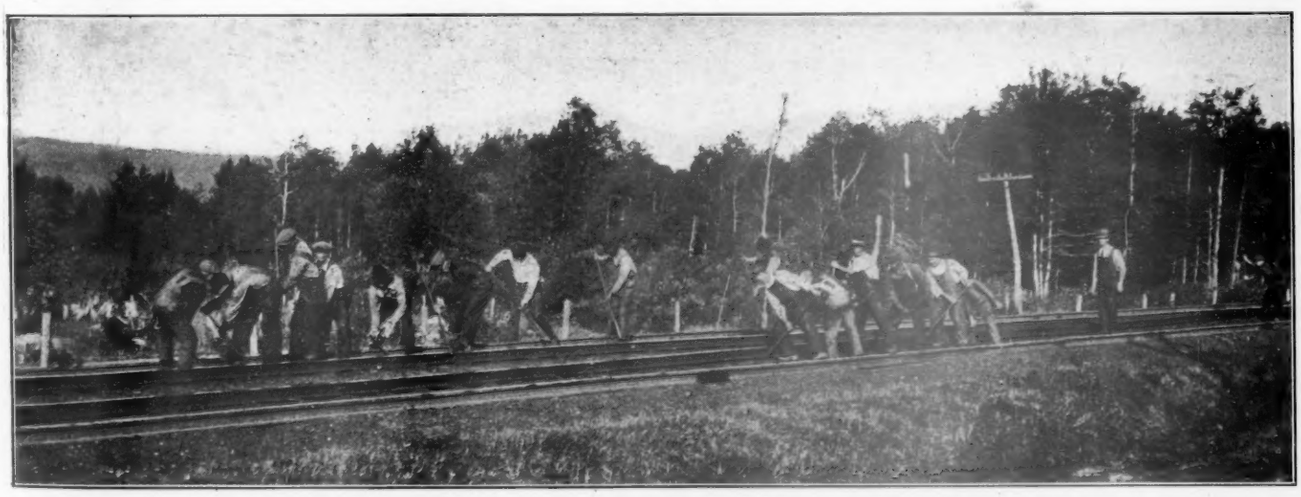
Two of the Roller Bars Showing Them With and Without the Hook to Go Over the Ball of the Rail

Following the distribution of the steel the rails are picked up by a special gang and set up end to end on the ballast shoulders at the ends of the ties, due care being taken to see that the joints fall in proper location. In order to speed up this work and secure a large mileage per day, two Three-Man rail layers were used with 12 men to a machine. These extra men greatly facilitated the work and permitted from five to six miles to be set up each day. Where the ballast shoulder was not entirely full or where the roadbed was springy, the rail was turned on its side with the ball towards the track, being turned back on its base in advance of the rail laying gangs. The extra inside spikes used on curves were pulled next in order that the spiking on tangents and curves would be uniform and a uniform movement of spike pulling gangs insured. Joint bolts at switches, crossings and intervals of 15 to 30 rail lengths on curves were well oiled in preparation for their easy removal when work was started.

The method of laying rail was to bar the old rail in towards the center of the track, leaving the tie-plates and outer spikes still in place. The new rail was then lifted into place and spiked down against the shoulder of the old tie-plates. This insured that the alignment and surface of the track would remain undisturbed, while a lesser concentration of men was needed and a greater output of work per day was secured. The new tie-plates were inserted later under traffic by extra section forces and extra gangs who adzed ties, plugged the old spike holes and fully spiked the track throughout. It is pertinent to mention in connection with the tie-plating that the Canadian Pacific uses soft wood jack pine and hemlock ties in which spikes can easily be driven or withdrawn. The slight extra labor of driving temporary spikes was thus overshadowed by the lessened delay in laying rail and by the non-disturbance of the track alignment and surface.

In actual operation, the work proceeded in the following general order under flag protection: Two men preceded the gangs, unbolting the old rail at highway crossings and curves, etc. These men were followed by two gangs, one to each rail, pulling the spikes on the inside of the rail. These were followed by two other gangs who barred in the old rail towards the center of the track. This brought the operation up to the actual laying of the new rail and the method which has greatly increased the mileage laid per day. Double-size tong gangs were used on each line of rail, about 36 men or 18 tongs being the usual number to a rail unit. A rail unit consisted of two rails bolted together in advance, making a 66 ft. length as a maximum to handle. With a foreman in charge, the double rail unit was lifted by the tong men and set over on the old tie-plates, at the same time swinging it back against an expansion shim of proper thickness. The tong men then moved ahead to the next setup, the entire rail laying operation being built around the rate of speed at which they could work steadily.

The results of this method have shown that most of the time lost with tong gangs was in starting and stopping them, and that the tong men become tired quickly from carrying rail rather than from merely lifting it sideways into place. Bolting the two rails together resulted in a double unit still small enough to handle easily and cut the starting-stopping time in half. Careful preparation in the setting up of the new steel practically obviated the carrying of it more than a foot or two at the most. The effect of this plan has been



The Old Rail Was Thrown in Toward the Center of the Track

that the tong gangs have been able to maintain practically the same average pace throughout the day with surprisingly little fatigue. Timed at various hours from early morning to late afternoon over stretches of from 10 to 20 rail lengths, it was found that the tong gangs were travelling at about 40 to 42 seconds per move, or at the rate of three rail lengths a minute or 180 rail lengths an hour. That this was done more or less easily was evidenced by the fact that when speeded up, each tong gang has maintained a pace for short periods of time of one move each 20 seconds, or at the rate of about 360 rail lengths an hour. During a good day where physical conditions were better than the average for this territory, a track mile of rail was laid in 28 minutes, more than once during the day, and a little over 10 track miles was laid during the day.

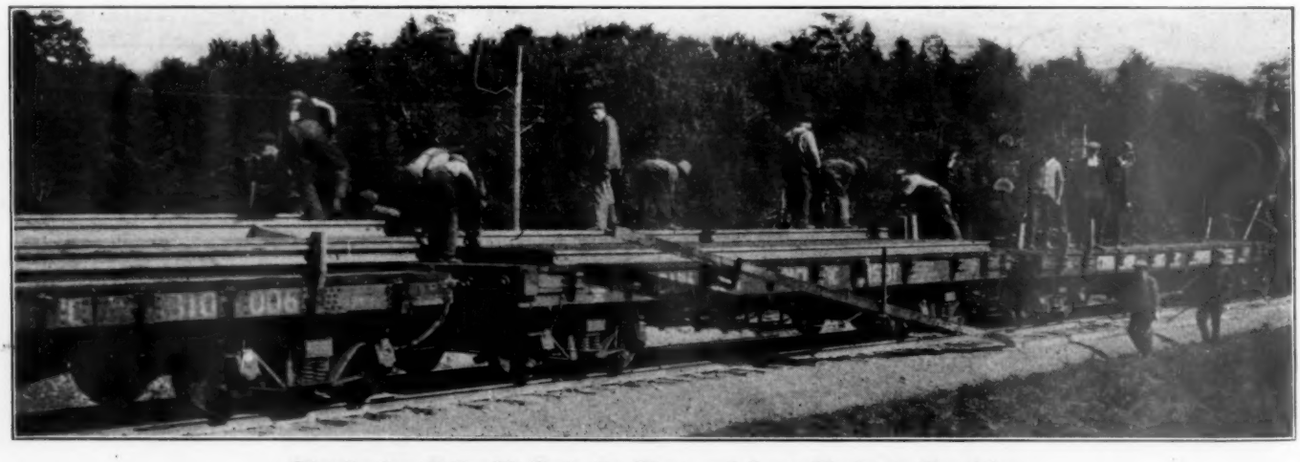
The tong gangs were followed by two gangs, one to each rail, equipped with lining bars and spike mauls who barred the new rail over tight against the shoulder of the old plates and spiked it down on the inside of the rail by driving spikes on alternate ties just outside of the tie-plates. Several men with adzes worked in and around the tong and spiking gangs to take care of the new joint ties, etc. The bolters followed behind these gangs putting on the remaining alternate joints and pulling them up tight, leaving all joints fully bolted. A small gang followed in the rear, checking up the work and insuring that the track was ready for traffic. The day's run was not considered complete, however, until the old rail had been thrown outside of the new steel, and for this purpose a work train and from two to four men were used.

With this method the loose ends of both old rails were lifted with a pair of tongs and lining bars over the new steel after which a work train, which was assigned regularly to the rail laying gangs, was moved along the track at a speed of from three to four miles an hour, pushing in front of it a flat car loaded with short length rail, miscellaneous extra tools, etc. The tread of the leading wheels on the first truck gradually pushed the old rail over and outside the new, leaving it on the end of the ties. For lubricating purposes, oil soaked waste was supported over each wheel by a wire rates adjusted to suit the work, easily keeping up with the progress of the rail laying gangs, although only working during odd hours to fill out the day when the work train would otherwise have been idle in a siding. It is estimated that the use of a work train for this purpose replaced from 30 to 50 men at least, based on previous experience where 30 men were needed to keep up with gangs laying five miles a day. Incidentally, the work train helped to keep the forces closely bunched, prevented straggling and tended generally to speed up the work.

While the organization varied somewhat according to the needs and conditions of the day's work, the following is fairly typical of the arrangement of the forces, which consisted of extra gang men:

1 Man.	Flagman.
6 Men.	Three on a side, setting up new rail on its base (when required).
2 Men.	Breaking joints.
2 Men.	With push car. Material for closing up track.
18 Men.	Nine on a side. One foreman. Pulling spikes.
1 Man.	Driving down broken spikes, etc.
16 Men.	Eight on a side. One foreman. Throwing in old rail (smaller number required on tangent track).
72 Men.	36 on a side. Two foremen. Two tong gangs.
3 Men.	Pulling spikes around joints of new rail.
2 Men.	Adzing where required.
64 Men.	32 on a side. One foreman. Bolting up joints.
48 Men.	24 on a side. One foreman. Spiking new rail.
1 Man.	Spiking loose ends of old rail (not required when work train follows gangs closely).
10 Men.	One foreman. Special gang on highway crossings and cutting closures at switches, etc.
4 Men.	Checking up new work.
3 Men.	Helpers on work train throwing out rail. (Five men needed on curves where rail is broken often.)
3 Men.	Carrying water.
1 Man.	Flagman.
257	Total.

When necessary to close track special 11-ft., 100-lb. 85-lb. switch points were used. In laying the new steel, allowance was made for creeping by opening up the joints at the foot of grades, approaching water tanks, etc., and blocking it



Distributing Rail with Both the Short and Long Hooks in Operation

by which the waste could be raised out of the way when not in use. Using the work train in this fashion, the old rail was thrown out smoothly and quickly and with practically no attention other than maintaining a steady pace. In general five miles an hour seemed to be about the most satisfactory speed for rail bolted up with angle bars. Where base supported joints were used, a number of men, usually two to a rail, equipped with light bars, gave the lower corner of the joint a slight upward spring as it approached the ball of the new rail, causing it to ride up and over the rail without catching. Under both conditions rail was thrown out at tight at the summits. Rail anchors were applied after rail laying by extra section forces. The rail laying forces were housed in boarding cars and were taken to and from work in three Colonist cars equipped with steam heat, attached to the work train. This materially reduced the possibility of sickness among the men and in addition permitted the utilization of the maximum available working time. Following the completion of the rail laying, the gangs were broken up into units of 30 to 50 men who inserted the new tie-plates and full spiked the track, averaging from 80 to 100 plates per man per day.

President Recommends Railroad Legislation

Urges Immediate Revision of Rate Structure and Law to Encourage Consolidation

WASHINGTON, D. C.

AN ENTIRE REORGANIZATION of the freight rate structure, to be ordered by Congress at once, and legislation to expedite railroad consolidations by aiding and stimulating voluntary consolidations, were recommended by President Coolidge in his first annual message to Congress on December 6. These proposals were offered as constituting together the only available means of bringing about rate reductions while maintaining an adequate transportation system, and the President opposed any change in the rate-making section of the transportation act until the Supreme Court renders its decision on the recapture clause, which is now before it in the Dayton-Goose Creek case. The President's ideas regarding consolidation are apparently those which have been urged upon him by Senator Cummins, who had indicated his intention of introducing a bill providing for a seven-year period for voluntary consolidations, to be followed by some form of compulsion if necessary. They are also closely in accord with the views expressed by the late President Harding in his Kansas City speech last July. The idea of a general readjustment of freight rates has been particularly urged for some time by Secretary Hoover, whose idea is that reductions in rates on agricultural products and some other basic commodities could be offset by increases in rates on more valuable articles without impairing railroad revenues, particularly if the railroads were consolidated into larger systems. President Coolidge did not refer to the proposals advanced by President Harding for turning the functions of the Labor Board over to the Interstate Commerce Commission and providing power to enforce its decisions nor to President Harding's approval of a central agency such as that proposed in the Warfield plan. Regarding railroads the President said:

The Message

"Criticism of the railroad law has been directed, first, to the section laying down the rule by which rates are fixed, and providing for payment to the government and use of excess earnings; second, to the method for the adjustment of wage scales; and third, to the authority permitting consolidations.

Rates, Recapture and Labor

"It has been erroneously assumed that the act undertakes to guarantee railroad earnings. The law requires that rates should be just and reasonable. That has always been the rule under which rates have been fixed. To make a rate that does not yield a fair return results in confiscation, and confiscatory rates are of course unconstitutional. Unless the government adheres to the rule of making a rate that will yield a fair return, it must abandon rate making altogether. The new and important feature of that part of the law is the recapture and redistribution of excess rates. The constitutionality of this method is now before the Supreme Court for adjudication. Their decision should be awaited before attempting further legislation on this subject. Furthermore, the importance of this feature will not be great if consolidation goes into effect.

"The settlement of railroad labor disputes is a matter of grave public concern. The Labor Board was established to protect the public in the enjoyment of continuous service by attempting to insure justice between the companies and their employees. It has been a great help, but is not altogether satisfactory to the public, the employees, or the companies. If a substantial agreement can be reached among the groups interested, there should be no hesitation in enacting such agreement into law. If it is not reached, the Labor Board may very well be left for the present to protect the public welfare.

Consolidation

"The law for consolidations is not sufficiently effective to be expeditious. Additional legislation is needed giving authority for voluntary consolidations, both regional and route, and providing government machinery to aid and stimulate such action, always subject to the approval of the Interstate Commerce Commission. This should authorize the commission to appoint committees for each proposed group, representing the public and the component roads, with power to negotiate with individual security holders for an exchange of their securities for those of the consolidation on such terms and conditions as the commission may prescribe for avoiding any confiscation and preserving fair values. Should this permissive consolidation prove ineffective after a limited period, the authority of the government will have to be directly invoked.

"Consolidation appears to be the only feasible method for the maintenance of an adequate system of transportation with an opportunity so to adjust freight rates as to meet such temporary conditions as now prevail in some agricultural sections. Competent authorities agree that an entire reorganization of the rate structure for freight is necessary. This should be ordered at once by the Congress."

Other Matters Discussed

In the discussion of agriculture the President also said that the farmer must be "assisted by the reorganization of the freight-rate structure which could reduce charges on his production. To make this fully effective there ought to be railroad consolidations." In advocating a reduction of taxation he also said that high taxes increase transportation rates.

The President's message was expected to be delivered on Wednesday but was delayed by a deadlock in the election of the Speaker of the House. The members of the "progressive" bloc refused to vote with the Republicans until they were given assurances that action would be taken to liberalize the rules of the House. Repeal or amendment of "the so-called Esch-Cummins railway act, so as to secure lower freight rates and to eliminate guaranteed dividends to favored classes," was one of the items of the legislative program proposed by the "progressive" bloc in the House.

A number of bills, including some involving railroad matters, were introduced in the House on Tuesday and Wednesday, but their printing was delayed.

The committees which will deal with railroad legislation are yet to be organized. There are six vacancies in the Senate committee on interstate commerce and six in the House committee on interstate and foreign commerce.

Report on the Burlington Disaster at Lockett, Wyo.

THE INTERSTATE COMMERCE COMMISSION has issued a report, signed by W. P. Borland, director of the Bureau of Safety, on the derailment of eastbound passenger train No. 30 on the Chicago, Burlington & Quincy, near Lockett, Wyo., on the evening of September 27, when nearly the whole of the train was plunged into a flooded stream, and 31 persons lost their lives. Seventeen passengers, one express messenger, one mail clerk, one train man and one Pullman porter are recorded as killed and seven passengers and three employees as missing. One passenger and one employee were injured.

This derailment was reported in the *Railway Age* of October 6, page 634. The government investigator reports the track and bridge as having been in good condition. The bridge was a pile trestle 111 ft. long and 20 ft. above the creek bed at the highest point. It was built in 1914. Each of the nine bents was made up of five piles driven to the point where they would not penetrate farther, this distance varying from 12 ft. to 23 ft.

On account of a curve in the line, the track on the bridge is not visible by the rays of a headlight for more than 600 ft. The cars were all steel except the first and third, which had steel underframes. The train was moving at 30 or 40 miles an hour. The locomotive was buried in the sand and the first car ran beyond the engine and came to rest on the east bank of the creek. The second and third cars were demolished, as was the bridge.

Cole Creek, the flooding of which caused the bridge failure, is only 14 miles long. It flows into the North Platte river about 80 rods south of the railroad. It drains an area of 130 square miles, one-third of which is very sandy soil.

An engineer of the railroad company inspected this region several days after the wreck and found that at three different points the sand had drifted across the channel of the stream, creating barriers and impounding large volumes of water, resulting in large areas on both sides of the creek being flooded. According to the statement of one of the inhabitants of the vicinity, there was one point 11 or 12 miles above the bridge where at 4 p. m. on the day of the accident about 320 acres of land was floaded; and on visiting this place at 9 a. m. the next day practically all of the water was found to have disappeared; he thought that in some places the water in the flooded area was 12 or 14 ft. deep and said a channel 60 or 80 ft. wide had been cut through the sand bar which had held the water. He also said all this water had accumulated during the day of the accident.

Officers of the road declared that the opening under the bridge was sufficient for the drainage area even under flood conditions. The engineer who made the inspection was unable to determine whether the west approach of the bridge had been washed out before the train reached that point; it may have been that the bridge was so weakened by the washing away of the earth around the piling as to cause it to give way after the weight of the train came upon it.

The roadmaster had reported heavy rains about one hour before the arrival of the passenger train but the height of the stream was not such as to warrant him in ordering any interference with regular movement of trains. In the nine years that he had been on that division, he had never before seen more than 3 ft. of water in that creek.

The track foreman reported that a half hour before the train arrived, the water in the stream was only about 18 in. deep. He was satisfied that no driftwood or other obstruction had lodged against the bridge. The bridge had received its semi-annual inspection on September 16 and had been found to be in first-class condition. No evidence was found of any fault in the locomotive or the brake apparatus.

In his conclusion, the inspector says that the disaster was caused either by the bridge being washed away or by its being weakened, as above explained. After the accident, the whole bridge was missing, with the exception of a few stringers. "It seems probable that the large amounts of water which appear to have been impounded by the sand bars upstream finally were released through the giving way of portions of the sand bars."

Consolidation Hearings End

WASHINGTON, D. C.

HEARINGS on the Interstate Commerce Commission's tentative consolidation plan were brought to a close on December 4 with the testimony of E. G. Liebold, vice-president of the Detroit, Toledo & Ironton, for whom a 15-minute session was held nearly a week after the other testimony had been concluded. Briefs are to be filed and oral arguments on the plan will be heard by the full commission beginning on January 7.

Mr. Liebold, who testified before Examiner Healy, said that the commission had been notified in a letter on November 15 that the road is opposed to the consolidation of the property with the Pere Marquette, System No. 6, as proposed in the commission's tentative plan, or with any other consolidation of the road, on the ground that it would tend to lessen its service to the public. He said the road should remain independent and be considered as a terminal road, serving the city of Detroit, for which it is adapted because it crosses almost every east and west trunk line. Mr. Liebold referred to statements made by Professor Ripley in his report to the commission in which he said that it would be of great public advantage if the road were grouped with the Pere Marquette in order to afford a soft coal fuel line for the Michigan peninsula and because it was at that time excluded from the city of Detroit. Professor Ripley had referred to the road's connection with the Kentucky and West Virginia coal fields. Mr. Liebold said, however, that the coal on its own line was of poor quality and that it had no connection with the Kentucky fields. Its connection with the Chesapeake & Ohio, he said, has such grades and curvature as to be most uneconomical for the handling of coal. He pointed out that the road now has its own entrance to the Ford plant and is not dependent on the Pere Marquette for switching.

As another argument against consolidation, Mr. Liebold said that the Detroit, Toledo & Ironton is endeavoring to solve some problems of railroading "along lines which do not seem to be in accord with the ideas of other railroads" and that if the road were consolidated these ideas would be "obliterated." By increasing wages above the schedules fixed by the Labor Board, he said, greater efforts are obtained from the employees. The average paid to the D., T. & I. office employees is $8.11 a day and to all other employees $7.26 a day. Another policy, he said, was voluntary reductions of freight rates, which have a tendency to increase the volume of business, and he cited figures showing the large increase in tonnage since the road was acquired by the Fords. By inaugurating a profit-sharing or investment plan for employees, the road is endeavoring to stimulate the interest of the employees and it is also making efforts to obtain greater fuel economy and more efficient operation and to follow a policy of closing down operations on Sunday. "We cannot see how the Detroit, Toledo & Ironton would be benefited in any way by the proposed grouping," he said, "or how the group would be strengthened by its inclusion. We are entirely without assurance that the necessary capital would be furnished for the development of the property, which should not be interfered with."

Mr. Liebold also filed the basic statistics for the road, which the commission had requested.

Co-operation Advantageous to Roads and Men

Performance of Both Carriers and Men in 1923 an Enviable One—Adequate Earnings Necessary

By Ralph Budd
President, Great Northern Railway

THE OUTSTANDING FEATURE of the development in the transportation industry in 1923 is the remarkable comeback of the railroads. There had been grave doubt and concern in the minds of many who realized the vital importance of railroad transportation in the industrial life and development of this country whether the plant of the United States railroads was sufficient to provide adequate and prompt service when needed. There was perhaps even more doubt and concern as to whether it would be possible for the companies to provide for the rapidly growing commerce and at the same time carry out the monstrous program of rehabilitation necessary following the war, which left the railroad property as a whole in a run-down condition.

The problem had two distinct phases: One was financial and meant the raising of the largest sums for improvement and enlargement work that ever had been demanded. This phase was made especially difficult by the fact that interest rates were high and earnings of the railroads were low. Nevertheless the railroads did raise and expend for additions and betterments of their properties in 1923 the vast total of $1,250,000,000. It is a tribute to the courage of the managements, even if it should not be considered a tribute to their financial sagacity, that they raised this money by paying an interest rate averaging about 6 per cent, while for the three years just prior thereto earnings on the money already invested in the properties had averaged about 2½ per cent. However, the improved service so essential to the success of the railroads and which already has been realized goes far to justify the undertaking. It is to be hoped that the earnings likewise may improve at least to the point where they will pay the interest on the new investment.

Properties Enlarged and Improved

Comparatively little of this new money was used to build new lines of railroad. Extensive enlargements were made in terminal and side track facilities; additional main line tracks were laid, automatic signals installed, and better and larger shops and engine houses provided. Besides this character of improvement there have been delivered in 1923, or are on order, 200,000 cars and 4,000 locomotives.

The rehabilitation of the railroads is reflected in the smaller number of bad order cars and locomotives. October 1 is the approximate beginning of the peak of the railroad business for the year. On October 1, 1923, there were about 2,500,000 freight cars and about 65,000 locomotives in the United States. Less than 7 per cent of the freight cars and less than 14 per cent of the locomotives were in unserviceable condition at that time. On October 1, 1922, about 13 per cent of the freight cars and about 26 per cent of the locomotives were unserviceable, which means 140,000 less cars and 7,500 less locomotives were in unserviceable condition on October 1, 1923, than one year before.

More Intensive Use of Properties

The other phase of the problem of providing adequate transportation was that of getting more service out of the facilities. The greatest element in this phase was co-operation, and it was co-operation that won the day. First, there had to be co-operation between the railroads in different parts of the country so that cars would be sent to that region where they were needed at a particular time to handle the seasonal traffic in that section. This need may be easily understood in the Northwest where agricultural products like wheat and other grain and livestock, but especially potatoes and fruit, must move in great volume in the fall months if almost incalculable loss is to be avoided.

Then there was helpful co-operation between the railroads and the shippers so that the actual requirements could be known and anticipated without any loss of transportation capacity by providing cars at the time and in the numbers needed, but not unnecessarily in advance of requirements or in excessive numbers. The co-operation of shippers in prompt loading and unloading of cars and in loading cars as heavily as practicable also aided in conserving the supply of equipment.

Employees' Co-operation Most Important

But a co-operation of far more importance than these—in fact, a co-operation which was the very foundation upon which that between the railroads rested and which alone made it possible—was that of the railroad employees with the managements. That co-operation was what made it possible to move a volume of business out of all proportion to the increased facilities provided, and he who in analyzing the progress of American railroads, as revealed in the truly remarkable performance in 1923, fails to find that one of the greatest of all the elements tending to the result accomplished was the improved spirit of co-operation of the employees and the management, with the resulting improved efficiency, omits the most vital and important factor in the case.

In the army of 2,000,000 railroad workers whose united efforts have brought about such a satisfactory performance, none have played a more important part than the members of your organization. If any part of the complex machinery which goes to make an operating railroad can be likened to the main-spring, which is the driving power in a watch, it is the locomotive that hauls the train. And the locomotive is nothing but a cold, inert mass until the human touch converts it into a pulsating monster of steel and steam, ready to do man's bidding under the guidance of a master hand or ready to destroy him if the vigilance of the master is relaxed. And no part of the railroad is more susceptible of increased performance as a result of efficient and painstaking handling than that same locomotive which is entrusted to your care and operation.

As a result of added and improved railroad property and of the co-operation of railroad employees, shippers, and managements, the greatest volume of traffic in the history of the country has been handled promptly and efficiently without appreciable congestion or delay, and, in the case of most of the railroads, there was capacity for more business than was offered. You and I, as railroad men, can look forward with confidence, knowing that we are abreast of the growing traffic of this country and can stay there so far as physical performance is concerned, if we can continue to

*An address delivered at Minneapolis, Minn., on December 2, on fiftieth anniversary of Founding of Brotherhood of Locomotive Firemen and Enginemen.

provide the capital to improve and expand our properties, and if we can continue and further improve the co-operation now existing.

Security of Investment Necessary

As to providing the constant stream of new money, it all depends upon whether capital invested in railroads can earn, or will be permitted to earn, a fair return, and has a fair stability against decline or loss of principal invested. It must be admitted that the return which the investors in railroad securities have enjoyed—or rather have suffered—since the war, is highly unsatisfactory. In 1920 railroad property earned about one-tenth of 1 per cent; in 1921, about 3¼ per cent; in 1922, about 4¼ per cent; and in 1923, it probably will earn 5½ per cent. These figures are actual despite the fact that there are those who say the railroads are guaranteed earnings of 5¾ per cent on their value. Time will not permit of long discussion of this question, but I will prove in very few words that there is no guaranty by calling attention to the fact that if the Great Northern Railway Company were guaranteed 5¾ per cent on its value it could, owing to its low capitalization, pay 7 per cent on its stock and have a prudent margin for reinvestment in the property. Yet a few weeks ago Great Northern stock could have been bought for 50 cents on the dollar. If earnings were guaranteed, that would have been a guaranteed 14 per cent investment. The reason why Great Northern stock could be bought for 50 is that its earnings are not guaranteed and everybody posted on investments knew it. The Great Northern is simply a typical example; other railroad stocks are quoted at figures which also prove that investors know their earnings are not guaranteed.

Government Valuation on Pre-War Basis

One of the things that most investors fear about railroad securities is the attack which is being made by some public men upon the value of railroad properties. According to the official valuation, which has been in progress for about nine years, is nearing completion, and has cost the country about $90,000,000, the value of the railroad properties in the United States as a whole is greater than the par amount of stocks and bonds outstanding. Sometimes it is said that this valuation is based on present-day reproduction cost, but that is not the case. In determining this value, the cost of doing construction work and of buying equipment and supplies has been figured on the basis of an average for several years, generally speaking, from about 1905 to 1915. It is a matter of record that costs were abnormally low during that ten-year period. If the railroads were to be reproduced today, the cost would be about twice as much, but the proposition made by some is that instead of allowing the railroads to earn a fair return even on the low value found by using pre-war prices, a valuation should be made on some still lower basis.

This would reduce the return that they would be permitted to make to a point where it would not pay the interest on the money invested in the properties. It is a most unusual procedure, especially at this time when we are all accustomed to dealing with the higher cost of everything we buy and when we are all so familiar with how much more it does cost to build anything, whether it be a house, a barn, a piece of highway, or a car or a locomotive. Indeed, none of us have any doubt about things costing much more now than they formerly did. You probably know that owners of houses, flats, and stores get rent based upon present building costs. Similar treatment is accorded to manufacturers, merchants, and laborers. Your own wages are much above a pre-war basis because your cost of living is higher, and because each dollar that you get is worth less and has less purchasing power. It is also true that each dollar of dividends that goes to an investor who has put his savings into railroad property is worth less. The railroads, nevertheless, are being compelled to accept a pre-war value of their property even though they are earning less than pre-war dividends. Now it is proposed that even the pre-war value, which has been pretty well determined by the government, shall be reduced. This would, of course, tend further to reduce the already inadequate return.

Depreciation

Besides the fact that it is based on pre-war costs, I want you to know and consider something more about this government valuation which it is asserted is too high and ought to be reduced. In determining the valuation, a large deduction is made from the pre-war cost of reproduction on the claim that any railroad after it has been built for a few years has depreciated because of age and is worth less than a new road. Those of you who have operated locomotives over a newly constructed track know something about the value and the advantages of a seasoned roadbed. You know that an old road properly maintained will carry heavier trains and that it will carry them more safely and faster than a new road. This being true, it will, of course, carry them at less cost. For this and some other reasons, including the fact that new roads usually are built through new countries, newly constructed roads rarely pay expenses during the first few years. No experienced railroad man would trade an old, seasoned roadbed for a brand new one of the same character and in the same territory. Take the Great Northern again as an example: There never had been a time when its track, bridges, buildings, cars, and locomotives were in such good physical condition or capable of handling such a large amount of traffic, and yet in the valuation by the government valuation forces $65,000,000 was taken off pre-war value of that railroad because they said it was worth that much less than it would have been if newly constructed.

Acquisition of Land

I will mention just one more of the examples of how, in making the valuation of the railroads, the government has kept the allowance of value down below what, in any other line of business, would at once be recognized as very unreasonable. It is in the acquisition of land: If the railroad acquires five acres of right-of-way through the middle of a quarter section of land worth $100 an acre the government says that right-of-way is worth only $100 an acre. Those who have had experience in buying a strip of land through the middle of a farm know that it costs at least twice as much as the average farm value. There are some good reasons for this. One is that in order to have a continuous strip of right-of-way, the railroad must buy its land at the particular place where the track is to be built. Because it must buy that particular piece of land, the seller exacts all that he can for it, and properly considers the particular location and shape of the land taken and that which is left in his farm. When the railroad crosses through the middle of a farm, it damages the remainder by leaving it in two separate and often badly shaped pieces.

The added cost incurred by reason of the unusual circumstances attendant upon acquiring property for right-of-way purposes is such that in the case of the Great Northern, if due allowances were made for it, the value would actually be $55,000,000 more for its right-of-way, terminal grounds, and railroad lands than the government has allowed. But, as already stated, even with these various deductions, the two of which I have mentioned amounting to $120,000,000, the pre-war value of the Great Northern's property, based on the valuation made by the government, would be very much greater than the par of all its stocks and bonds outstanding.

Those who are most active in trying to deprive the owners of the railroads of a fair return on their investment might well devote some of their time to reducing the cost of govern-

ment. That cost has considerably more than doubled within the past 10 years, as proven by the taxes we are all required to pay.

Security Holders Equal Employees

Now a railroad, after all, has a distinct human element about it, notwithstanding the fact that no single person can be found who owns it. We sometimes think of a railroad property as merely an aggregation of earth and stone embankments and excavations, wood and steel bridges, buildings, rails, ties, locomotives, and cars, but it may, with equal pertinency, be visualized as an aggregation of thousands of men and women who, on the one hand, maintain the property and operate its trains, and thousands of men and women who, on the other hand, own the stocks and bonds which represent the physical property. It is a significant circumstance that those who own railroad securities are about equal in number to those engaged in operating the railroads so that in reality there is just as much of a human element in the ownership of the railroads as there is in their operation. For many of those who rely upon the income from their savings invested in railroad securities, it is as important to receive a fair return on that investment as it is for the men and women who operate the railroads to rely upon fair wages.

Mutual Interest in Railroad Success

It seems so obvious that there is a mutual interest between the group which owns and the group which operates the railroads that no discussion is necessary to emphasize it. The desire of the owners is to have a fair return and fair security as to principal, which two things alone justify their investing in the railroads.

The things that make railroad work attractive to you and other employees are good wages, new opportunities for employment, and rapid promotion. It seems clear that if you are to get or to keep on getting good wages, the company must first earn the money to pay them; also if the railroad is to expand so that new lines are to be built, new trains put on, and men promoted to higher positions, the railroad must be able to get new capital. It cannot secure this from investors unless they are allowed to earn a fair return upon the value of their properties. You cannot hope to see new roads built and new opportunities for employment opened up unless investment in railroad property is made attractive. Adequate rates and earnings, therefore, are just as essential to your promotion and welfare as they are to the welfare of those who have invested their savings in the railroad property. Fair earnings and fair rates should be your constant aim and effort, not only because of loyalty to the institution from which you get your bread and butter, but because of your personal interests as well.

I think a very important way in which you can serve your own best interests is to avoid becoming enlisted on the side of those who are engaged in attacking and trying to destroy your employers. Nevertheless, sinister influences are at work with the hope of bringing this very thing about.

Employee Relationship

I cannot refrain from saying a word about railroad employee relationship with management. It grieves me to hear it said that the railroad employees of this country are disloyal to the companies for whom they work. I do not believe that it is true to any large extent. The service rendered by the railroads in 1923 already mentioned seems to me the most conclusive proof of the general loyalty and efficiency of the men. I think, to a large extent, the impression has been gained through the fact that for the past few years great publicity has accompanied the deliberations concerning any disputes there may have been between railroad managements and their men, and that this gave rise to the erroneous idea that at all times and all places, in the performance of their daily duties on the job and off, the men and the officers were at hopeless odds. This leads me to say that it seems to me there ought to be a way for the men to deal more directly with their managements without the intervention of third parties.

It is probably fair to assume that the theory of providing for mediation and settlement of disputes by others, when the parties fail to agree, is that the public must be protected against the danger of an interruption in railroad service, which would be too disastrous to tolerate. If the two contending sides to an issue could always take a sane view of the matter and determine in advance to agree, if possible, but if not possible then to select, according to prearrangement, a commission or board composed of representatives of both and whose decision would govern, it would be far preferable to the present arrangement.

No new or amendatory legislation is necessary for this program as the managements and the men are not prohibited from agreeing, and if they do reach their own agreements there are no disputes to refer to third parties.

I have said that we as railroad men may properly feel that the railroads are abreast of the growing traffic of the country and can stay there if we can continue to provide the capital to improve and expand our properties, and if we can continue and further improve the co-operation now existing. Will we be able to do these two things? I confidently believe and hope we will, and I as confidently assert that in our continued and improved co-operation lies a large part of the assurance that we will be able, in the future as in the past, to raise the necessary funds for enlarging and expanding these great railroad properties so as to be able to meet the public requirements, and thus to do our part in contributing to the uninterrupted growth and prosperity of this great country of ours.

B. W. Hooper Reports on Results of Labor Board Work

B. W. Hooper, chairman of the United States Railroad Labor Board, has issued a statement describing in detail the volume and results of the work of the Railroad Labor Board since it began to function in March, 1920. Mr. Hooper indicates the handicaps under which the board has operated, and explains the causes for the lack of promptness in handling cases, for which the Board has been criticised. The statement also calls attention to the instances in which the decisions of the board have been violated by managements or employees.

Mr. Hooper's statement reads in part as follows:

At the end of federal control of the railroads, March 1, 1920, the Railroad Labor Board began to function in the adjustment of wages and working conditions. The rates of pay and the working rules of every class of employees on all the railroads in the United States were in dispute or about to become so. The calendar of the board's work was not therefore a matter of gradual growth, but it commenced business with a docket congested with every form of wages and rules disputes conceivable, involving great sums of money, the industrial contentment of 2,000,000 employees, and the uninterrupted railway transportation indispensable to the welfare of every business and individual.

There are three phases of the Railroad Labor Board's operations upon which Congress and the public are entitled to accurate information: The number of cases handled, i. e., the volume of work done by the Board; the extent to which the board's decisions—merely advisory as they are—have been respected and obeyed by the carriers; the extent to

which the board's decisions have been observed or have been struck against by the employees. These three questions are here treated in the order named.

Number of Cases Handled

From April 1, 1920, to November 1, 1923, 12,270 disputed questions were referred to the Railroad Labor Board. Of these 10,671 have been disposed of. Of the total number of disputes, 857 did not reach the status of regularly docketed cases. The cases regularly docketed, as in a court, number 11,413. Of these, 9,918 have been disposed of. In some instances, cases involving the same general question of wages or rules were consolidated under one docket and decision number.

The board is sometimes criticized for lack of promptness in handing down its decisions, but it has been a physical impossibility to keep its calendar cleared. It is, however, now closing cases more rapidly than new ones are filed and will soon catch up with its work.

Violations by Roads

The success of the work of the Railroad Labor Board must necessarily be measured by the extent to which its decisions have been respected by both parties, taking into consideration, of course, the abnormally difficult conditions under which it has operated so far. There are in the United States 201 Class I carriers. Upon formal investigation the board has found and declared that 25 of the 201 Class I carriers have violated one or more decisions of the board.

The majority of these violations resulted from the action of carriers in entering into contracts with outside corporations or individuals for the performance of work ordinarily done by certain classes of the railway employees. These cases can hardly be characterized as wilful and unquestioned violations of the board's decisions, inasmuch as the contracts were entered into under a claim of right, and the legal question involved is now before the federal courts for adjudication. It must also be noted that, after the board decided that such contracts could not operate to change the established rules and wages of the employees arbitrarily, all but a few of the carriers implicated withdrew from their objectionable contracts. If, in view of these facts, the so-called contract cases be omitted from the calculation, there remain only eight Class I carriers that have been found to have violated the board's decisions.

To what extent these eight carriers have conformed to the board's decisions after having been formally declared to be violators, is not fully known to the board. Some other carriers have been charged with violations of the board's decisions, but the board has not yet investigated and passed upon such charges.

Violations by Employees

Violations of the Transportation Act, 1920, or of the decisions of the Railroad Labor Board by the employees have been infrequent. In fact, there is only one way in which the employees can violate the Act or the board's decisions, and that is by the drastic method of the strike. If they should violate otherwise, they would be subject to discharge from the service. Therefore, when one asks how many times the employees have violated, he is virtually asking how many times they have struck.

The strike on the Atlanta, Birmingham & Atlantic grew out of a peculiar situation wherein a federal court authorized a receiver to reduce wages below those fixed by the board, and the men struck against the court's action and in support of the board's decision.

The outlaw switchmen's strike of 1920 was under headway before the Railroad Labor Board had organized.

The strike on the Missouri & North Arkansas might be classed as a violation of the board's decision, but the employees claim that the carrier in the first instance violated a decision, and that they subsequently refused to accept one.

The only case in which the employees have violated the Transportation Act, 1920, in a direct and absolute manner was in the recent strike of the engineers and firemen on the Virginian. In this case, they ignored the imperative provisions of the act by failing to first submit their grievances to the board before striking. They did, however, appear and present their side of the controversy when the board had assumed jurisdiction and cited them and the carrier.

In October, 1921, the train and engine brotherhoods took a strike vote and were in the act of calling a nation-wide strike when they desisted at the last moment as a result of the intervention of the board. This would have been the most disastrous strike that our country ever saw.

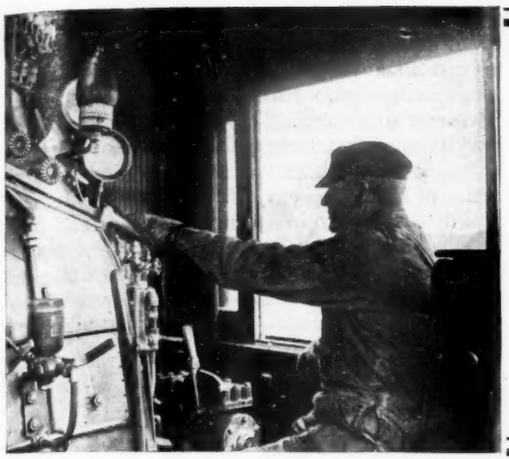
The clerical employees represented by the Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees struck on the Norfolk & Western and on the Chesapeake & Ohio during the shop strike.

In the case of the shop strike of July 1, 1922, the shopmen did not, by striking, violate the Transportation Act. They went through all the procedure commanded by the law up to a final decision of the board and then exercised their lawful right to decline to accept the board's decision. Their act was as lawful as that of any carrier that violated a final decision of the board. This strike wrought great injury to the carriers, the employees, and the public. The shopmen lost much and won nothing by it.

It is worthy of note that no railway strike has succeeded since the creation of the Railroad Labor Board, and that for this reason the number of strikes compared with the immense number of controversies settled is infinitesimal. As the only railroad strike of any magnitude which has occurred against a decision of the board, the shop strike has really served a useful public purpose, notwithstanding its disastrous effect. It has strengthened the Transportation Act by demonstrating that a railroad strike can not succeed against public sentiment, and that public sentiment is likely to support the decisions of a tribunal fairly constituted upon which the public is represented. It required one good-sized strike to make manifest the power of public sentiment behind the decisions of the board. The motive of those who now contend that the public should not be represented on such a board is quite obvious.

The decisions of a board composed only of representatives of the carriers and employees would often arouse the suspicion of collusion, and would command no more public confidence than do the maneuvers of the coal operators and the miners. This fact was recognized by Congress when it wrote into the Transportation Act, 1920, the provisions that wage disputes should not be decided without the concurrence of at least one public member of the board. Now there are certain interested individuals who want a board without public representation. When such a bi-partisan board agreed upon important matters, the cost would be passed on to a suspicious public. When it disagreed, and a strike resulted, the public would never know which party was in the wrong and public sentiment could not be definitely brought to bear on the situation.

THE STEAMSHIP MINNESOTA, built for the late James J. Hill in 1904 and designed to carry freight across the Pacific Ocean in connection with the Great Northern Railway, has been sold, to go to Germany, to be broken up. The Minnesota and its sister ship, the Dakota, were the largest freight carriers under the American flag, having capacities of 20,000 to 25,000 tons each, but they were too large to be operated with profit, and proved a failure. The Dakota was wrecked off the Japanese Coast in 1906. These vessels were 630 ft. long, 73 ft. 6 in. wide and had a moulded depth of 56 ft.



Less Damage to Freight by Rough Handling*

Enginemen Can Help Reduce Freight Claims by the Timely and Proper Use of Brake Valves

By C. F. Polzin
Locomotive Engineer, Chicago & North Western

UNNECESSARY rough handling of freight causes an economic loss to the entire country. It was with surprise bordering on consternation that I read that the huge sum of $3,919,848.25 has been paid by the Chicago & North Western alone to patrons to reimburse them for loss and damage to freight for the year 1921. The amount attributable to rough handling and ordinary damage was $1,592,726.36, or approximately 40 per cent of the total paid out in claims. In 1922, $332,489.51 was directly charged to rough handling and $222,370.40 to undetermined causes, the larger portion of the latter item also being attributable to rough handling. To these sums should be added the cost of repairs to equipment due to rough handling.

What can the locomotive engineer do to help reduce this claim and damage cause?

Avoiding Shocks at High Speeds

For purposes of discussion, the speeds of trains will be divided into three classes: High speed, covering 25 to 40 miles an hour; moderate speed, 10 to 25 miles an hour; low speed, 10 miles or less an hour. With a train traveling at high speed having empties behind and loads ahead, the slack should be kept out and the engine working slightly when the application of the brakes is first started. Then as the train slows down and the brakes have helped to adjust the slack and the speed of the train is reduced to where the slack is adjusted, the throttle should gradually be completely shut off. This should bring the train to a stop without the slightest reaction being felt in 99 cases out of 100.

I am often asked, "Can a shock or run-in of slack be produced on a train that has been slowed down in this manner, and how can it be avoided?" Such a shock can be produced and it can also be avoided. For instance, suppose a 12-lb. reduction of the train line has been made, giving with standard piston travel of eight inches on cars and ET. equipment on the locomotive, a pressure of 30 lb. in the brake cylinder. Now a release is desired because the train is going to stop short, or the restriction has been passed, and the speed of the train is great enough to permit it. The brake valve is placed in release position, the engine brake left applied, with the train stretched. As the train brakes release, the engine brake and engine are a veritable bumping post and, while on the head end the effect of the run-in may be slight, it certainly leaves havoc in its wake on the rear end.

To avoid a shock in releasing brakes that have been applied with the slack stretched due to loads ahead, it is advisable to graduate the engine brakes off a few pounds at a time so that by the time the train brakes are off only a pressure of eight or ten pounds remains in the engine brake cylinders.

During a train line reduction, the air on the head end escaping first to make room for that coming from the rear, causes the brakes on the head end to apply first. Therefore, if the train line blow is still in progress when the stop is made, it insures a heavier brake cylinder pressure on the head end of the train, providing an over reduction is not being made.

This, with the sand under the head portion of the train and with a heavier engine and tender brake cylinder pressure graduated on, overcomes the load action of forcing out the slack on the head end and a prefectly smooth stop results. With empties ahead and loads behind, the slack should always be bunched before the brakes are applied. This is done by the gradual closing of the throttle, and with a train of 40 or more cars, a distance the length of 25 cars or more should be traveled while doing this to insure a gradual bunching of the slack.

If, after the engine and train have drifted in the above manner for some distance, there still is doubt as to the slack being bunched, a pressure of about five pounds should be graduated into the engine and tender brake cylinders. Then the train can be permitted to drift for some distance, a few pounds more at a time being graduated into the cylinders until 12 lb. have been obtained. The slack will then be bunched. An application of the brakes can be made and the train brought to an easy stop.

Train Lengths Must Be Considered

For moderate speeds of 10 to 25 miles an hour, the length of the train has to be taken into consideration. With a train consisting of 60 cars or less and a speed of 18 to 25 miles an hour, it is permissible to keep the slack stretched if the make-up of the train so requires. But with a train consisting of 60 or more cars and any speed less than 25 miles an hour, or 60 to 30 cars and a speed of 10 to 25 miles an hour, the slack should in all cases be bunched before an automatic application of the brakes is made.

With a train of 30 to 50 cars and a speed of 10 to 15 miles an hour, the speed of the train is so slow that in many cases where train line leaks exist in the head end of the train, they assist in so quick an application of the brakes on that portion of the train that before the brakes on the rear end fully apply, the head end comes to a stop and the slack runs in.

You may ask, "What if those train line leaks exist more at the rear end than at the head end of the train? Then in all cases, bunch the slack at that speed and when starting to make the application of the brakes or a little before, open the sanders to get the head portion of the train on sand. Then make a sufficiently heavy reduction to get all pistons

*Abstract of an article which won the gold watch recently offered by the Chicago & North Western for the best paper on prevention of freight damage caused by rough handling.

by the leakage grooves. Graduate a few extra pounds into the engine and tender brake cylinders and just before the train comes to a stop, make a further reduction of the train line pressure which will give a heavier brake cylinder pressure on the head end of the train than there is on the rear. If the loads are ahead this will keep them from lurching away from the train.

It is highly important that trainmen advise the engineer on leaving the terminal or any pick-up point as to how many cars are in the train, the location of loads and empties, and where cars to be set out at the different stations along the line are located.

Making Stops at Slow Speeds

It is often impossible to stop a train successfully at four to eight miles an hour with the slack out by the use of the automatic brake valve. This is true on almost any length of train and especially with a train of over 50 cars, because the speed is so slow that the brake cylinder pressure on the head end of the train brings that portion of the train to a stop before the rear end and the result is that the slack runs in. This can be avoided if the slack of the train has previously been adjusted.

Care must be taken when a train is brought to a stop and the grade is such that the rear end of the train may run back (due to too light a reduction of the train line pressure which has not applied the brakes there) that a sufficiently heavy reduction is made before the train line is cut to insure the application of brakes on the rear end of the train. This will avoid the draw bar springs and grade conditions moving that portion of the train, causing severe shocks to cars and contents. But in all cases where grade conditions permit this to be done, a release of the brakes should be made so as to have on recoupling of the engine (or portions of the train that were detached) as much air in the train line as possible.

When picking up uncharged cars it is advisable (if movement back onto the train with just engine brakes can be made in safety) not to let the trainmen cut in the air back of the engine. This will provide excess pressure as the brake valve can be carried on lap during the movement. Even with one to 15 cars attached to the engine fully charged, cars picked up behind, uncharged, should not have the train line coupled with that of the charged cars until placed and coupled in the train.

The engineer can again carry the brake valve on lap, and if the brakes do apply on the charged cars he can (by at intervals placing the brake valve in release position) allow just enough air to flow to the train line to repeatedly kick them off and the engine brakes can be kept off by the use of the independent brake valve. Then when the air is finally cut in he will have very nearly if not a full head of excess pressure in the main drum (against only 90 lb. which he would have had with the brake valve in release position) to insure a prompt release of the brakes. Excess pressure is what insures prompt release of the brakes and enables a train to get under way promptly. By conserving, we can increase this excess.

Suggestions for Switching Movements

In regard to rough handling of cars in yard switching movements it may be said that there are several reasons for more or less of it, over all of which the men have not always absolute control. One is the physical condition of the yard. Another is the superheater engine. When the stop signal is received by the engineer on a superheater engine, the units are full of steam and still working, which requires a harsh application of the independent brakes to overcome. Then when steam is exhausted from the units, it is found that slack has not started out, but the brake cylinders on the engine and tank have perhaps a full head of pressure and the action of the slack under those conditions is severe. This can be avoided to a great extent in two ways: One is to apply to the engine and tender brake cylinder (after the signal to stop has been received and the throttle closed) about 12 or 15 lb. of pressure. Then when the steam has exhausted itself and the slack gradually stretched, a full application of the brakes can be made without any harm.

The other way is immediately to make a heavy application of the air by going to quick service with the independent brake valve (this to insure a heavy brake cylinder pressure while the engine is working to overcome its power) and then as the exhaust decreases, graduate off the engine and tender brakes. Thus when the steam from the superheater units has escaped, there will remain in the brake cylinders enough pressure to stretch or bunch the slack gradually, depending on the direction of the movement. Then make a sufficient further application of the air to stop. With the slack once adjusted no further damage can result.

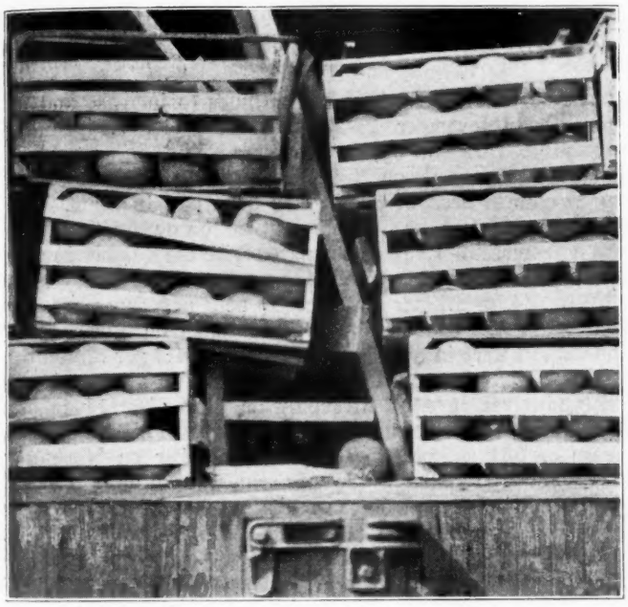
The Best of Bracing Cannot Resist Some of the Shocks Caused by Rough Handling

We think that one car striking another at a speed of six miles an hour causes a very severe shock, but on the other hand, we start to kick a bunch of 15 or 20 cars and attain a speed of about 10 miles an hour. We get a signal to stop, and on goes the air full force. Then by the time the slack on the last car is out the speed of the engine is perhaps five miles an hour, while that of the car is still 10, and it is stopped with an impact of a speed of five miles per hour just as hard as if its own weight at that speed had been precipitated into a solid obstacle in its path. If the air had been applied just sufficiently heavy to stretch the slack at a difference of speed of two miles an hour and when out, no matter how severe the brake is applied, no damage will have resulted.

One of the prime causes of rough handling of cars is the habit of short switching. By this is meant that the switchman stops the engineman too soon when he has passed over the switch, over which a cut of cars is to be made. The switchman does not feel that he should walk toward the engine any distance to make the cut, so when the engineman receives the signal to stop he slams on the air in an effort to stop short of the switch, perhaps to save time, but in most cases to avoid reversing the engine.

It is not fair for the engineman to expect the switchman to favor him all day long; neither is it fair for the switchman

to favor himself at the expense of the engineman's exertion. Co-operation and a fair compromise is necessary to help save freight claims. Trainmen should get into the habit of giving clear and accurate signals. Enginemen when receiving signals under those conditions can be more accurate and efficient. The habit of giving more or less car signals than distance warrants results in distrust and brings about an inferior grade of work. Enginemen, when shoving down onto cars in the yard with another string of cars, should bear in mind that although you can stop the engine within a certain distance, the last car in the string does not stop as soon as the engine does. Remember there is slack in those cars and it may reach out a car length or more and cause a hard coupling. Get the slack out first with a light brake cylinder application and then when the engine is stopped, the cars will also be stopped; then release the brakes just before the engine is stopped so the slack due to the draw-bar springs relaxing



More Careful Operation of the Brake Valve Would Have Prevented the Damage Claim on This Car of Cantaloupes

can go towards where the coupling was made as well as react towards the engine. This will prevent unnecessary draw-bar strain, if the coupling is somewhat hard, and in most cases result in slack so adjusting itself that a cut of the cars can be made. Freight likely to be damaged from jars and concussions should be placed and kept as near the head end of the trains as possible. This applies to cars of merchandise, drain and sewer tile, cement products, automobiles loaded on top of one another, butter and eggs, and similar freight. I would advise that these cars be placed right behind any short cars that are to be handled in the district over which the train is operated.

The action of the slack is most severe on the rear end of a train as it moves over the division, due to dips and sags and other physical conditions of the road and slack re-action. Keeping fragile freight away from the rear end of trains will greatly reduce the liability of damage.

It is not at warehouse stations or loading platforms that damage occurs. It is after cars have been placed in yards and switched to trains. Could we visualize the warehouse or loading platform from which the cars were received, it would serve as a reminder of their contents and we might, knowing the fragile contents, exercise more caution in handling and avoid damage.

There is no question but what engineers can greatly help out in claim prevention by giving the matter more thought in connection with their work.

How the Australian Railways Promote Co-operation

THE VICTORIAN GOVERNMENT RAILWAYS of Australia are making a special effort to enlist the co-operation of the public in the solution of problems of mutual interest. As a means to this end several educational campaigns are now under way which have for their purpose the promotion of safety, the reduction of highway grade crossing accidents and the development of a co-operative spirit on the part of shippers and passengers.

Pamphlets and booklets explaining in detail how the shipper and the passenger can save time and money in their transactions with the railroads are distributed to the general public. As an example, an eight-page booklet with photographs and sketches describes in detail how the shipper can secure prompt, efficient service at the Melbourne freight station by making deliveries at certain hours. Another booklet of four pages urges the shippers to load cars to full capacity and to release cars promptly. Its text is summarized briefly in two paragraphs set out in boldface type as follows: "An increase of only 1 cwt. in the average contents weight of each loaded car means a saving of about half a million car-miles a year." "Remember each mile added per day per car means 850 more cars."

After the season is over the public is informed by another folder of the results obtained. One booklet explained how the average car load had been increased from 8 tons to 9¾ tons and the average daily mileage from 24 miles to 27 miles. The shippers are given credit and thanks for their assistance to this end.

A small eight-page folder gives specific directions for loading and shipping live stock with tables for the correct sizes of crates for poultry. When any important change in practice is made, as for instance, when the country return tickets were abolished, a booklet was distributed setting forth the disadvantages and the expense of the return ticket system as compared with the efficiency and improved service rendered with the one-way ticket system. Extensive improvements such as the electrification of the Melbourne suburban lines are described in bulletins which explain the advantages and economies of the system and give reports of the progress being made, with approximate dates when each section of the improvement will be completed.

The Victorian Railway has also undertaken to assist in marketing products. A booklet entitled "Citrus Fruits, What They Are, What They Mean to Health and How to Get Them" was distributed to the general public. This booklet explained to the consumer how to order from the grower and what to expect in his package of oranges, lemons or grapefruit. Health benefits to be derived from the eating of citrus fruits are emphasized.

Large artistic placards 2 ft. by 3 ft. in size, printed in six colors, and posted about the stations and public places, bring the public's attention to ways of helping themselves by helping the railroads. Such ideas as "Do Your Christmas Shopping Early," "Shop Between 10 and 4," "Advantages of Summer Resorts," "Eat More Citrus Fruits," etc., are thus brought to public attention very effectively.

The safety campaign is conducted in conjunction with the Melbourne and Metropolitan Tramway Board as a continuous program although the bulletins are sent to all schools throughout the State of Victoria. These bulletins are printed in large letters on heavy tinted paper 9 in. by 11 in. and are posted on bulletin boards and other points of attention. A new bulletin is issued every week and the series so far consists of 22 bulletins.

Sketches are included in most of the bulletins illustrating ordinary circumstances liable to cause serious accidents that can readily be prevented by a little precaution. The themes of several of these bulletins are:

"Think Before You Act; It Is Better to Lose a Minute Than Lose Your Life."
"Watch Your Step When Getting Off Cars."
"Short Cuts Across Railway Rights-of-Way Are Dangerous."
"Keep Railway Carriage Doors Closed Until Train Stops."
"Bumming a Ride on a Train May Mean a Free Ride in an Ambulance."
"Always Look Both Ways at a Crossing. It is Easy to Do."

With the co-operation of the teachers in the schools these bulletins are the means of instilling the fundamental ideas of safety in the minds of school children which they will, from force of habit, practice through life.

A careful crossing campaign similar to that in the United States was carried out on the Victorian Railways from March 1, to June 30, 1923. Illustrated placards similar to those used in the United States were posted in all public places, at crossings and in trains. Small stickers were used on letter heads and placed on windshields of motor vehicles and in windows. In checking the highway traffic at three separate grade crossings on Saturday, May 19, 1923, it was found that of a total of 453 motor cars, 11 bicycles and 187 horse-drawn vehicles, the drivers of 137 slowed down while 514 did not. Of those drivers who slowed down, 81 looked both ways before crossing, 36 looked one way, while 20 looked to neither side. Of those who did not slow down, 85 looked both ways, 113 looked only one way and 316 looked neither to right or left. Altogether only 166 out of 651 looked both ways before crossing, 149 looked in only one direction, and 336 kept straight ahead, without looking either to the right or left. The department has gone to the length of endeavoring to induce owners of private property contiguous to grade crossings to remove objects which are likely to obscure the view of an approaching train. The results of this check together with a general explanation of the situation were mailed and distributed to the general public.

Freight Car Loading

WASHINGTON, D. C.

REVENUE FREIGHT CAR LOADING in the week ended November 24 amounted to 990,217 cars, a decrease of 1,528 cars as compared with the loading for the preceding week and an increase of 43,575 cars as compared with the corresponding week of last year. Loading of grain and grain products, live stock, coal and coke was less than that for the corresponding week of last year, but all other classes of commodities showed increases as compared with both 1922 and 1921. In the Allegheny district the loading was less than that for last year.

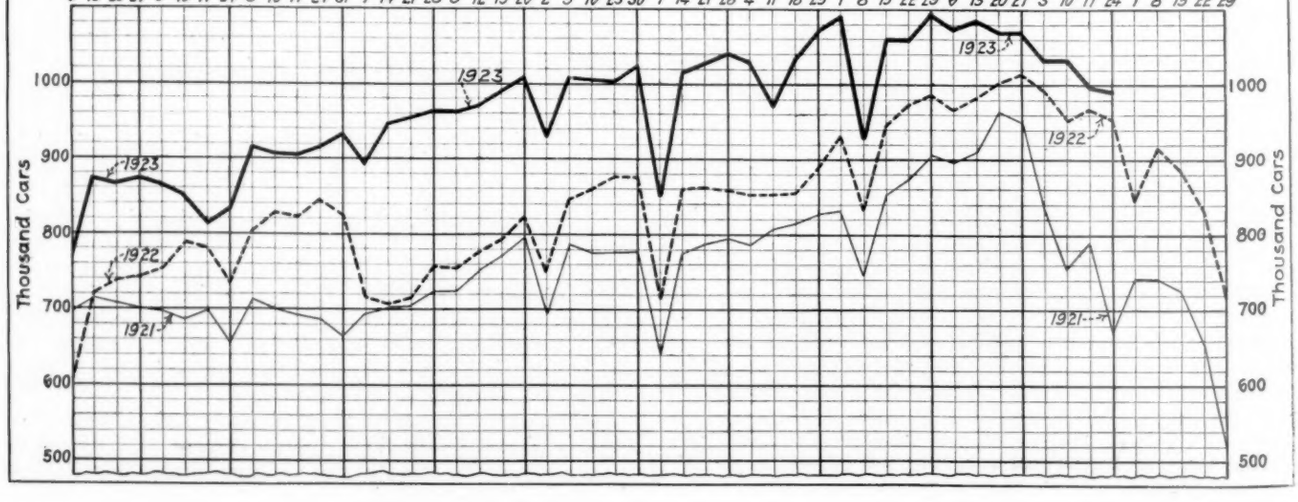
A summary of the report compiled by the Car Service Division of the American Railway Association follows:

REVENUE FREIGHT LOADED—WEEK ENDED SATURDAY, NOVEMBER 24, 1923

Districts	1923	1922	1921
Eastern	240,644	238,858	172,561
Allegheny	200,564	203,548	142,201
Pocahontas	36,749	30,073	25,053
Southern	146,086	130,194	103,305
Northwestern	131,283	118,960	80,046
Central Western	159,328	156,495	95,653
Southwestern	75,563	59,514	54,646
Total Western Districts	366,174	334,969	230,345
Commodities:			
Grain and grain products	52,057	54,906	35,159
Live stock	39,443	40,396	25,771
Coal	182,158	198,764	138,020
Coke	12,259	13,122	6,356
Forest products	74,201	65,691	43,791
Ore	24,872	15,241	5,718
Misc. L.C.L.	250,528	227,525	200,824
Miscellaneous	354,699	330,997	217,826
Total	990,217	946,642	673,465
November 17	991,745	957,564	790,363
November 10	1,036,067	944,186	755,777
November 3	1,035,776	979,851	837,576
October 27	1,073,965	999,718	951,384
Cumulative loading for year to date	45,673,690	39,048,387	35,918,733

The surplus of freight cars continues to increase and for the period November 15-22 averaged 111,797, including 43,645 box cars and 58,490 coal cars. Shortages amounted to 1,866. The roads on November 15 had the smallest number of cars in need of repair they have had in years. The total was 149,192, or 6½ per cent of the ownership. This was a decrease of 1,432 as compared with the number in need of repair on November 1. Of the total number on November 15, 116,534, or 5.1 per cent, were in need of heavy repair, an increase of 450 compared with the number on November 1, and 32,658 were in need of light repair, or 1.4 per cent, a decrease of 1,882 compared with November 1.

Locomotives in need of repair on November 15 totaled 10,796, or 16.8 per cent of the ownership. This was an increase of 684 as compared with the number on November 1. Of the total 9,801, or 15.3 per cent, were in need of heavy repairs, an increase of 638 over the number in need of such repairs on November 1. Reports also showed 995 in need of light repair, or 1½ per cent. This was an increase of 46 compared with the number at the beginning of the month. Serviceable locomotives in storage but ready for use whenever needed totaled 2,608 on November 15, 91 more than on November 1. During the first 15 days in November, 20,188 locomotives were repaired and turned out of the shops, as compared with 21,989 during the last half of October. This includes 8,903 given heavy repairs and 11,285 given repairs requiring less than 24 hours.



The Commission Presents Its Annual Report

Unequaled Transportation Performance Noted—Amendment of Valuation Law Suggested

WASHINGTON, D. C.

AMENDMENT of the railroad valuation act to provide a more practicable manner of revising valuations once established for the purpose of bringing them down to date is suggested by the Interstate Commerce Commission in its annual report to Congress for the year ended October 31. As to railroad legislation in general, the commission adheres to the recommendations made in its last report without making any new ones, but in that part of its report dealing with valuation it suggests two possible amendments, based on different theories of valuation. The first, as to which the commission mention some doubts as to the constitutionality, would provide for adding to or subtracting from a basic valuation once established the net property changes made after the valuation date. The second, intended to meet the objection to adding a cost figure to a valuation figure, would provide for the ascertainment from time to time of changes in condition or value subsequent to the valuation date. The present terms of the law require that valuations be brought up to date by the methods used in making the basic valuation and the commission's experience prompts serious doubts as to the practicability of these "cumbersome" methods.

There is no discussion of the subject of consolidation except a brief statement regarding the hearings that have been held under this heading.

Many references are made in the report to the improved service rendered by the railroads this year and their "hitherto unequaled transportation performance."

Rates

As to rates the report calls attention to the effect of the general 10 per cent reduction made on July 1, 1922, which it says, will lessen the total freight transportation charges paid by the shipping public in 1923 by more than $500,000,000. "In our report in *Reduced Rates*, 1922, we referred to stabilization of rates as one of the important needs of commerce," the commission says. "With this in mind and having in mind also the desirability of giving the basis of rates established in July, 1922, a fair trial, and of avoiding the dislocation of business and commercial conditions often incident to investigations involving the possibility of important general changes in the rate level or in the relationship of rates, and because conditions outlined elsewhere in this report did not appear to warrant such action, we have not made any further general investigation of rates during the past year. No general reductions over the country as a whole or throughout any of the major rate groups defined by us have been made by the carriers. But the year has continued to be one of transition and readjustment of rates, largely by reductions. The number of freight rate changes made in 1923 has been even greater than the number made in 1922, which was, up to that time, the greatest in the history of American railroads.

"The only traffic upon which important reductions have been made is that moving between the east and the middle west on the one hand and the Pacific coast and intermountain territory on the other, due to the efforts of transcontinental carriers to meet more effectively the competition of vessels operating between Atlantic and Pacific ports through the Panama Canal. The effect of such competition has been materially felt by the transcontinental rail carriers, and further readjustments of these rates from time to time are probable. Numerous reductions in individual rates have been made as a result of informal complaints or following complaints and orders in formal proceedings."

Railroad Earnings

In referring to the increases in railroad earnings in 1923, the report says that the net railway operating income will probably be in excess of a billion dollars, "but possibly not sufficiently" to make 5¾ per cent. It also refers to unusual expenditures for maintenance of equipment as having tended somewhat to reduce the net railway operating income.

"It is perhaps not generally realized," the commission says, "to what extent the operating expenses have increased since the last year prior to our entrance in the World War. A comparison of the traffic, revenues, and expenses of the large steam roads for the calendar year 1916 with those of the last 12 months for which the data are available is of interest:

	Twelve months ended with August, 1923	Calendar year 1916
Operating revenues	$6,286,045,566	$3,625,252,371
Operating expenses	4,936,561,503	2,376,372,042
Payroll (mostly included in the preceding)	3,023,799,014	1,508,403,506
Freight traffic (revenue ton-miles)	409,273,991,000	362,444,397,000

"The improvement in the net earnings of the carriers noted above has by no means been equally distributed among the individual systems. The recovery from the depression of 1921 was more marked in the eastern and southern districts than in the western district in the first two-thirds of the year 1923."

Attention has been given to working out in a tentative way a basis for freight rates that will reflect in a systematic way such elements as cost of service and value of service and the Bureau of Accounts is also attempting to formulate statistical tests of the degree of maintenance of way, structures and equipment.

The report begins with a statement of the repeated reductions made by the Bureau of the Budget and by Congress in the appropriations for the commission's work as compared with its estimates of its needs. This, the report says, is not in the nature of an appeal, but "we must in justice to ourselves state to the Congress that we cannot under these reduced appropriations carry on in the future the same amount and kind of work as has been performed in the past. In addition to the curtailment of certain activities because of reduced appropriations, referred to in our last report, we will now be compelled to defer or greatly restrict some of our current work." For the fiscal year 1923, the commission estimated $5,649,500, the budget bureau recommended $5,344,970 and Congress appropriated only $4,879,500. For 1924 the commission estimated $5,204,500, the budget bureau recommended $4,514,500 and Congress allowed $4,903,960. For 1925 the commission estimated a basic amount of $4,688,860 to be increased by approximately $256,080 agreed upon by the Personnel Classification Board for increase in compensation to its employees, but the budget bureau estimates that $4,279,500 must defray not only the basic expenditures but the increase in compensation to employees as well.

The report calls attention to the increased duties imposed on the commission by the transportation act and to the necessity for obtaining for directors of the new activities persons of experience and ability, and asks that Congress specifically authorize by law in the Interstate Commerce Commission the following positions and salaries: Chief counsel, $10,000 per annum; director of traffic, $10,000 per annum; director of finance, $10,000; director or acting director of valuation, $9,000; supervisor of land appraisals, $9,000; super-

vising engineer, $9,000; supervisor of accounts, $9,000. These are the salaries now being paid, but the Personnel Classification Board, which is reclassifying the government employees under the budget and accounting act, has so classified these positions as to provide a salary not in excess of $7,500 per annum unless a higher rate is specifically authorized by law. The director of the Bureau of Service was formerly paid $10,000 a year also, but the vacancy was recently filled at $7,500. The report says that some of these officials were induced to sacrifice considerable sums to accept service with the government at their present salaries and it could not expect them to make the further sacrifice of remaining in the federal service at salaries reduced to $7,500 per annum. It also says that the expenditures for the locomotive inspection force have been kept within the appropriation only by curtailing the activities of the force to the detriment of the service, and that during the last fiscal year inspections could not be made at 1,782 points, which is 39 per cent of the total number of points at which locomotives are housed or repaired.

The plan of co-operation between the federal and the state commissions is said to be now an actuality and its application is constantly increasing, with results that have fully justified its adoption. Under it the occasions for conflicts in the exercise of federal and state regulations are being avoided, to the advantage and satisfaction of all concerned and the results are confidently believed to assure an even fuller measure of success.

Much light has been thrown upon the commission's authority over divisions of joint rates, the report says, by the opinion of the Supreme Court in the New England divisions case. This made it clear that the present jurisdiction over divisions is broader in many instances than its jurisdiction prior to the passage of the transportation act; that in fixing the division as well as rates, the public interest should be considered; and that the provision concerning divisions is an integral part of the machinery for distributing the funds expected to be raised by the new rate fixing sections of the interstate commerce act to the end that the country may have adequate transportation service.

Upon application for injunction against enforcement of its order in *Kansas City, Mexico & Orient Divisions*, the lower court found that the commission had exceeded its powers, and the matter is now pending before the Supreme Court.

There are now pending 26 cases involving divisions of joint rates between carriers. Several of these have to do with the divisions accorded by their connections to so-called short-line railroads, while others relate to divisions between trunk-line carriers.

Regarding the proposed rate scale standards the commission says: "We are fully aware that commercial conditions have in the past prevented the development of harmonious and logical rate structures, and that such influences will continue to operate in the future. Nevertheless, it would frequently be helpful to us in our work of determining just freight rates if we had before us comprehensive information bearing upon both cost and value of service. In a tentative way a series of tables has been prepared purporting to give what would be a reasonable rate for carload transportation of any commodity on a cost-of-service basis for any distance. These tables should be thoroughly tested and expanded before they are published for use. Thorough study along this line requires much tedious work in ascertaining the cost of various railroad operations and in the systematic comparison of existing rates and would call for adequate appropriation."

Shortened Procedure

With a view to simplifying, shortening, and making less expensive the procedure upon complaints filed with us, the commission has been experimenting during the year with a new method of handling the simpler formal cases. This shortened procedure consists of dispensing with the usual method of holding hearings before a commissioner or an examiner, and substituting sworn statements of fact. After the respective memoranda have been filed, the case is assigned to an examiner, who studies them as he would a formal record, and who then prepares a proposed report. At any time up to the date when such report is issued, any party to the case may request the regular formal hearing either upon the whole complaint or upon certain features of it. After the examiner's proposed report has been served the procedure is the same as if the case had been formally heard; that is, printed exceptions to the report may be filed, as provided by the rules of practice. Oral argument may be had upon seasonable request therefor, and the decision of the division of the commission is subject to petition for rehearing the same as if the issues had been decided upon a record made at a formal hearing.

While all requests for extensions of time within which to file memoranda were granted and no memorandum was rejected because overdue, even though some were six months late, the average time consumed in making up the record was approximately 60 days less than the average for similar cases handled in the regular formal method.

Extracts from parts of the commission's report follow:

Advancement of Automatic Train-Control Work

As stated in our last report, we adopted, in June, 1922, specifications and requirements for the installation of automatic train-stop or train-control devices, without recommending any particular device or any particular type, and by order served upon 49 carriers directed each to install by January 1, 1925, upon a full passenger-locomotive division included within designated portions of its lines, a device in accordance with these requirements.

At the time the order was issued three installations of automatic train-control devices were in service, and two of these installations are now being extended over a division. Of the remaining 46 carriers named in the order, 5 have installations under construction, 18 are conducting short tests, and 23 are conducting investigations of devices available for installation. Monthly progress reports concerning these tests and the selection and installation of devices are being filed by these carriers.

The record of accidents which have been investigated by our force for the year ended June 30, 1923, shows 119 collisions and derailments, in which 285 persons were killed and 1,765 injured. The number of preventable accidents, and of persons killed and persons injured in such preventable accidents, represent 63, 66, and 73 per cent, respectively, of the total number of accidents, persons killed and persons injured.

Bureau of Valuation

The outstanding development in the valuation work since the submission of our last report has been the progress in collating the data gathered by our field parties into the underlying accounting, engineering, and land reports upon which our tentative valuations are based.

Of 327 tentative valuations served, on and prior to October 31, 1923, 127 have become final because no protest was filed within 30 days. Hearings on protests have been had and concluded in 105 cases. In 16 other cases hearings have been commenced and continued to later dates. Twenty-five cases are now set for hearing before our examiners. Final arguments have been heard in 27 cases and 9 others have been assigned for argument in the near future. Sixty-seven cases have been heard and submitted without argument. As of October 31, the bureau had completed 183 tentative reports covering 242 properties and 26,863 miles, which were pending before division 1 of the commission.

Final reports were issued during the year in two important cases. In these reports we determined principles involved in the fixing of final values. In the disposal of these cases we were not confronted to any considerable extent by the complications arising out of war and post-war period changes in price levels. In our previous reports and orders we determined important questions relating to general methods and principles.

In conformity with the national program of economy we have endeavored to confine expenditure of money to the features which, relatively, were the most pressing, and have subordinated work on the minor classes of carriers, and have endeavored to concentrate on the more important task of valuing steam roads.

From time to time representations have been made to us asking segregation by states of all property and of the final single sum values. The National Association of Railway and Public Utilities Commissioners has made insistent representation to us of the

desirability of making such segregations. At a conference last spring between a representative of the commission and the valuation committee of that association it was agreed that an estimate of the cost of making the segregation would be made and the matter, in the form of a separate item of appropriation, presented to the Congress for the determination by it of the question of policy involved. This we have done, including in our 1924-25 estimates submitted to the director of the budget an item of $100,000 separately stated to cover this work if it should be the desire of the Congress that it be done. We can not enter upon this work on our regular appropriation.

Bringing Valuation to Date

With the approach of the completion of basic valuations of steam carriers we have entered upon work that is preliminary to bringing valuations forward to a more recent date. Our valuation order No. 3 requires carriers to report additions, betterments, and retirements made subsequent to the date of inventory of the original valuation. The various railway properties of the country in the original valuations have valuation dates as follows:

Valuation date	Number of properties	Valuation date	Number of properties
June 30—		June 30—	
1914	71	1920	6
1915	185	1921	3
1916	475	1922	1
1917	478		
1918	548	Total	1,977
1919	210		

During the year field forces have been organized and assigned to policing and checking the carriers' records under order No. 3. On October 31, 17 accountants and engineers were thus engaged. We expect to increase this force to 35 men by the end of the present fiscal year.

We are giving serious consideration to the methods to be adopted in the revision of valuations for the purpose of bringing them down to date. Our experience prompts serious doubts as to the practicability of proceeding in "like manner" in bringing valuations down to date. There must be general recognition of the fact that employment of the methods used in making the basic valuation would be cumbersome. The results would be unsatisfactory because valuation would always be greatly in arrears of the time of its use, necessitating resort to estimates and other expedients to bridge a considerable interim. This necessarily would result from the physical magnitude of correcting the original inventory by eliminating units retired and adding units installed subsequent to date of valuation, and reclassifying the property in accordance with conditions or use as of the new date, for the purpose of making estimates of reproduction new and reproduction less depreciation of ways and structures. There would also have to be reappraisal of lands for the purpose of finding present value. The cost, while not equalling that involved in the original inventorying and valuing of the property of the railroads, would raise serious question as to the propriety thereof. The time which the work would require calls for serious consideration. It would seem that the valuation of carrier property can only justify its original cost and any subsequent expenditures by being more approximately current than could possibly result if methods employed in the original valuation must be applied to subsequent valuations. The system employed should assure a status of valuation such that value can quickly, and without great cost, be brought to date of need or use.

We direct serious consideration to the necessity of some amendment. Amendments have been suggested embodying different theories as to the proper method to be adopted, in substance as follows:

(1) An amendment providing that from and after completion of the valuation of the property of a carrier as of a fixed date, the commission shall, from time to time as it may have occasion to use the same, bring the valuation to date by adding to or subtracting from its original basic valuation of the property the net property changes, measured in dollars and cents, that are properly chargeable to or deductible from property account.

(2) An amendment providing that, from and after completion of the valuation of the property of the carrier as of the designated valuation date, the commission shall from time to time, according as it may have occasion to use the value of the property in performance of duties imposed on it by the act, ascertain and determine the condition and value of property on subsequent dates, taking into account any changes in such condition or value which may have taken place subsequent to the last preceding valuation date, and giving due consideration to all the elements of value recognized by the law of the land.

Both of the above necessarily contemplate the close policing and checking of property accounts, a work that already has been commenced. Either, if constitutional, would afford practical administrative results. In consideration of No. 1 above, the question will arise whether the Congress, in the exercise of its police and regulatory powers, can prescribe an investment or original cost basis for valuation, in ascertaining values for rate-making purposes, that would stand the test of constitutionality. These are considerations which are governing in the formulation of No. 2 above. Fundamentally, these two suggestions present different theories of valuation.

Bureau of Finance

Under the provisions of paragraphs (18) to (22) of section 1 of the interstate commerce act, 116 applications for certificates of public convenience and necessity were filed. Of these, 50, covering 2,914.51 miles of line, were for authority to construct new lines or to extend existing lines; 36 were for authority to abandon mileage aggregating 964.94 miles of line; 28 were for authority to operate, or to acquire and operate, 780.44 miles of line; 1 was for authority to a new company, after a reorganization in receivership proceedings, to operate the lines of the former constituent companies; and 1 was for authority to a consolidated company, organized under applicable state laws, to operate the consolidated lines.

We issued 66 certificates, of which some were in respect of applications made during the preceding year, 28 covering 881.59 miles of new construction, 19 authorizing abandonment of 523.41 miles of line, 17 authorizing the operation, or acquisition and operation, of 704.73 miles of line, 1 authorizing operation by a reorganized company, and 1 authorizing a consolidated company to operate the lines of its constituent companies; and denied 5 applications, 2 covering 15.75 miles of new construction, 1 seeking authority to abandon 1.5 miles, and 2 to acquire and operate 4.62 miles. Sixteen applications, 2 covering the construction of 19 miles of line, 11 for authority to abandon 138.19 miles of line, and 3 to operate, or to acquire and operate, 37.2 miles of line, were withdrawn. In 18 cases hearings have been held for us by state commissions during the year, and in the majority of such cases in which a decision has been reached we have followed their recommendations.

Applications for Control

Paragraph (2) of section 5 of the act authorizes us to approve, by order, the acquisition by one carrier of control of one or more carriers either by lease, or by purchase of stock, or in any other manner not involving the consolidation of such carriers into a single system. Under this paragraph 24 applications have been filed, 16 authorizations have been issued, 1 application has been withdrawn, 4 applications dismissed, and 4 applications denied.

In our last report we stated that orders dated January 16 and March 16, 1922, had been served upon all carriers subject to the provisions of section 15a of the interstate commerce act. These orders were applicable to the period ended December 31, 1920, and the year ended December 31, 1921, respectively. On March 31, 1923, we issued our order requiring returns to cover the calendar year 1922. Returns have been received in response to these several orders showing aggregate results with respect to excess in net railway operating income as follows:

Period	Number of returns	Number of returns in which excess income is reported	Total amount of excess income reported
Applicable period, 1920	924	32	$1,126,647.01
Calendar year 1921	867	26	757,412.17
Calendar year 1922	775	35	1,332,433.64

Of the carriers reporting excess, 16 reported an aggregate of $193,350.20 and remitted one-half of the amount to us to be placed in the general railroad contingent fund. It should be borne in mind that the excess income reported by the carriers is not based upon values fixed by us, and it may be assumed that the number finally determined to have earned excess income will be considerably larger. We are giving consideration to all returns which indicate that excess income was earned, with a view to early determination of the property values and ascertainment of the excess income recoverable.

Many of the carriers have complied with our orders under protest, alleging that section 15a is unconstitutional. The Dayton-Goose Creek Railway, one of the carriers protesting, instituted proceedings in the district court of the United States for the eastern district of Texas, at Beaumont, praying for a preliminary injunction against the orders of the commission. In the opinion of the court rendered March 16, 1923, the injunction applied for was denied and the bill dismissed. Appeal was taken to the Supreme Court of the United States, and the case set for argument on November 12, 1923. Returns are required from all carriers, whether or not their own computations indicate that excess income has been earned. In many cases the carriers have failed to file their returns within the time prescribed, and it may be found necessary to resort to the penalty provision of section 20 of the act in order to secure proper compliance with our orders.

Issuance of Securities and Assumption of Obligations

We have received 217 applications and 51 applications supplemental thereto under section 20a of the interstate commerce act, and have authorized the issue of securities and the assumption of obligations and liabilities in respect of securities of others in the following aggregate amounts and for the following purposes:

Preferred stock:		
For acquiring securities of other companies		$3,580,000
For conversion		57,500,000
For reorganization		30,000,000
For construction		12,022,450
For consolidation		32,720,000
For refunding		199,000
For pledge		500,000
Total		$136,521,450
Common stock:		
For refunding		$174,100
For reimbursement of capital expenditures		15,800
For reorganization		6,018,000
		[1]1,020,000
For construction		3,882,000
For equipment		714,600
For conversion of other securities		114,257,450
For acquisition of property		100,000
For consolidation		46,247,900
For stock dividends		50,417,400
Total		$221,827,250
		[1]1,020,000
Special stock:		
For advances		$1,209,350
Total stock		$359,558,050
		[1]1,020,000
Bonds—mortgage:		
For refunding	$154,517,500	
For reimbursement of capital expenditures	76,585,100	
For advances	2,910,000	
For reorganization	222,831,449	
For construction	17,110,780	
For equipment	717,000	
For acquiring securities of other companies	10,206,000	
For pledge	58,154,380	
Assumption of obligation and liability, as guarantor, in respect of $34,287,900.		
Total		543,032,209
Debentures:		
For refunding		2,170,000
Notes:		
For refunding	$23,497,005	
For advances	3,948,371	
For reorganization	150,000	
For construction	7,109,920	
For equipment	2,593,210	
For working capital	410,000	
For pledge	100,000	
Assumption of obligation and liability, as guarantor, in respect of $1,600,000.		
Total		37,808,506
Equipment obligations		261,898,156
Receivers' certificates:		
For construction	$3,500,000	
For equipment	1,500,000	
For general purposes	2,000,000	
For reorganization (assumed)	587,862	
Total		7,587,862
Investment certificates:		
For capital purposes		1,000,000
Grand total securities		$1,213,054,783
		[1]1,020,000

Under paragraph (9) of section 20a certificates of notification of the issue of notes maturing within two years, in the aggregate sum of $65,902,381.70, were filed.

Reimbursement of Deficits and Six Months Guaranty

In our last report we stated that 344 carriers had filed claims for reimbursement under section 204 of the transportation act, 1920, claiming an aggregate amount of approximately $25,000,000. During the past year eight additional claims have been filed, increasing the amount about $200,000. Final settlements with 180 carriers have been effected, representing a gross amount of $7,699,896.35, and $505,734.11 has been certified as partial payments to carriers with which settlement has not been effected, making a total of $8,205,630.46 certified. Of the latter amount, $1,809,201.63 was withheld under the provisions of the urgent deficiency act of May 8, 1920, on account of traffic balances and other indebtedness due to the director general of railroads, as agent.

In addition to the final settlements effected, 74 claims have been dismissed and 6 withdrawn, leaving 92 awaiting final disposition.

As stated in previous reports, 667 carriers filed acceptances of the guaranty provisions of section 209 of the transportation act, 1920.

The accounting adjustments required by subdivision (f) of this section have presented difficulties which have tended to delay final settlements. In response to our orders relating to settlement under section 209, carriers accepting the provisions thereof filed claims aggregating an amount of approximately $657,000,000. We adhere to our previous estimate of approximately $536,000,000 as the total amount payable under the guaranty. Final settlements have been effected with 355 carriers and 110 cases have been dismissed as not entitled to the benefits of the guaranty, leaving 202 cases of which final disposition has not been made. Certificates have been issued in the aggregate amounts as follows:

Advances under section 209 (h) and (i)	$263,935,874.00
Partial payments under section 209 (g) and (i) as amended by section 212	169,441,912.14
Final settlement under section 209 (g)	67,944,888.58
Total	$501,322,674.72

The estimated amount still payable to the carriers under section 209 is therefore $34,677,325.28.

[1]Shares of stock without nominal or par value.

Bureau of Accounts

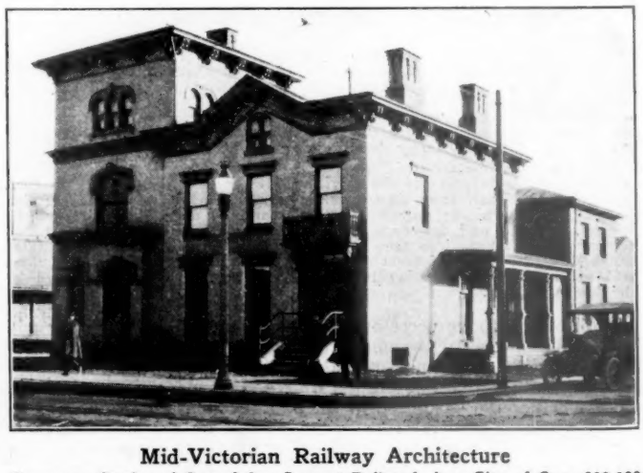
Attention has been largely directed to special accounting examinations necessary to determine the amounts due carriers under the provisions of sections 204 and 209 of the transportation act, 1920. The work under these sections is decreasing, but this decrease is offset to some extent by the increasing number of special accounting examinations essential to determine the amount of recoverable railway operating income. The accounts of 14 carriers were examined for this purpose during the year, and it is probable that this type of examination will require still more time and attention during the coming year.

The depreciation section has continued to make substantial progress in its investigations under the provisions of section 20 of the interstate commerce act, which require us to prescribe, for all carriers subject to the act, the classes of property for which depreciation charges may properly be included under operating expenses and the percentages of depreciation which shall be charged with respect to each of such classes of property. We have issued tentative reports in the case of telephone companies and steam railroad companies as a basis for public hearings before final regulations are prescribed.

The necessary revision of our accounting regulations, to which we referred in our last report, has steadily progressed. In the case of the accounting classifications of operating expenses of steam roads a point has been reached that will enable us to complete their revision in the near future.

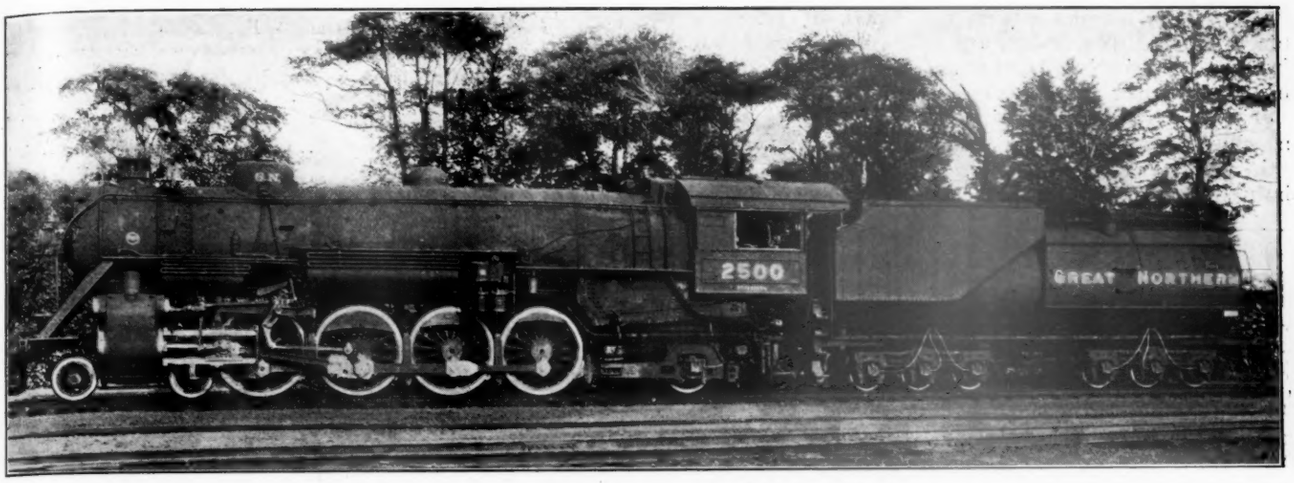
In the regulation of carriers' accounts under section 20 of the interstate commerce act we have a twofold duty to perform: To prescribe uniform accounting systems for the several classes of common carriers subject to the act, and to enforce the observance of the prescribed accounting regulations. The latter can be accomplished only by policing the carriers' accounts through general examinations, the importance of which, in this connection, we have mentioned in former reports. To police the accounts to best advantage our examinations should be made periodically at intervals of about two years. With the means at our command, it has been impossible to accomplish this. While the bureau has been somewhat enlarged in recent years, the increase has been more than offset by the new accounting duties imposed by the federal control act and by the guaranty and other provisions of the transportation act, 1920. Such general examinations as we have been able to undertake have been confined to the accounts of Class I and some Class II steam roads and have been made at intervals so far apart that their effectiveness has been seriously impaired.

[An abstract of the remainder of this report will be published in a subsequent issue of the *Railway Age*.—Editor.]



Mid-Victorian Railway Architecture

Passenger Station of One of Our Largest Railroads in a City of Over 200,000 Population.



The New Mountain Type Passenger Locomotives on the Great Northern Have a Tractive Force of 54,830 lb.

Mountain Type Locomotive for Great Northern

New Power Replaces Pacific Type for Heavy Passenger Traffic—Contrast with 60 Years Ago

THE GREAT NORTHERN, in order to care for its increasingly heavy passenger traffic, placed an order several months ago with the Baldwin Locomotive Works for 28 heavy Mountain type locomotives. Some of these have now been received, and it is expected that all will be placed in service before the close of the year. The first locomotive of the new design, known as class P-2, bears the railroad number 2500, while the builder's name plate shows that it was Baldwin's locomotive number 57,000.

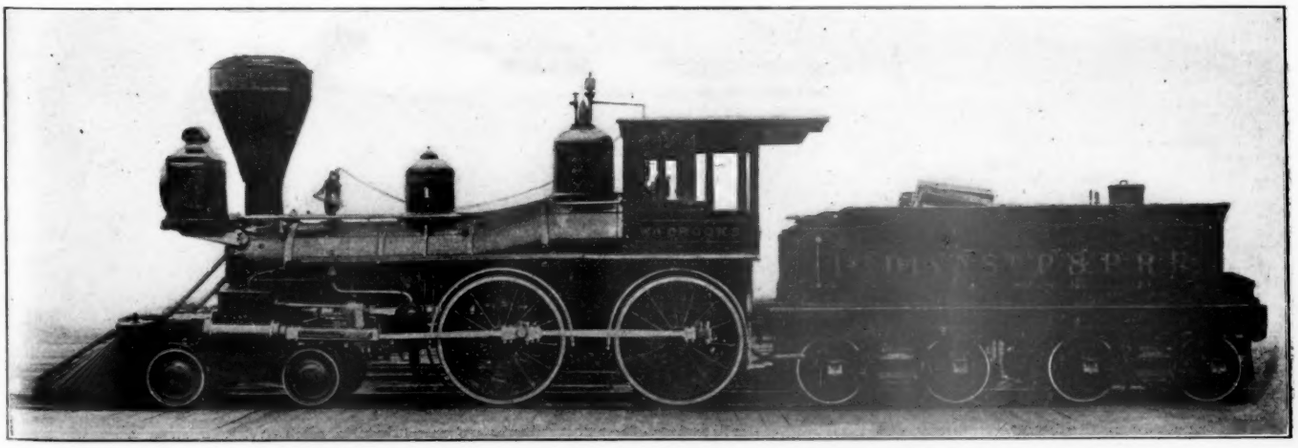
These Mountain type locomotives are the heaviest passenger engines in service on any of the northwestern transcontinental lines, and are of the same nominal capacity as those on the Union Pacific. They compare favorably with Mountain type locomotives which have been built recently for various other roads as will be noted from a comparison of the figures given in Table I.

These Great Northern 4-8-2 type locomotives are capable of sustaining high speed with any of the regular passenger trains on the road, even under severe weather conditions, and will be used on all portions of the line for hauling heavy passenger trains, not only in the mountains, but on the plains as well. They will replace heavy Pacific type locomotives hitherto used in such service and will practically eliminate the use of helper engines for the transcontinental trains, except over the Cascade Mountains.

The weight of the locomotives alone in working order is 365,600 lb., of which 242,000 lb. is on the drivers, 62,700 lb. on the leading truck, and 60,900 lb. on the trailing truck, which is of the Delta type. The cylinders are 29 in. diameter by 30 in. stroke, the driving wheels are 73 in. diameter and the boiler pressure is 200 lb. per sq. in. These figures give a rated tractive force of 54,830 lb. The driving wheel base is 19 ft. and the total locomotive wheel base is 41 ft. 7 in. The cylinder horsepower is 3,030 and the weight of the locomotive per horsepower is 120.66 lb.

Of the 28 locomotives ordered, 10 are equipped to burn coal and will be operated mainly between St. Paul and Breckenridge, Minn., and between Minot and Williston, N. D., while 18 are equipped to burn fuel oil and will be operated in the Rocky and Cascade mountain regions. The boilers are of the extended wagon-top type, 84 in. diameter of barrel at the first ring, and carry 200 lb. steam pressure.

On the coal-burning locomotives, the fireboxes are fitted with Nicholson thermic syphons. They are fired by Stand-



The First Locomotive Used in Minnesota Was Built in 1861 and Had a Tractive Force of 5,130 lb.

ard Du Pont Simplex stokers and Franklin grate shakers are provided. The boilers are fitted with Type A superheaters. Security brick arches are provided in the fireboxes of the oil burners as well as the coal burners.

The tenders are of unusually large capacity, being approximately 50 per cent greater than that of tenders used with existing passenger locomotives. Those used with the coal burners can carry 20 tons of coal, while those with the oil burners can carry 5,000 gal. of oil. The water capacity of both types is 12,000 gal. The adoption of these large tenders will eliminate stops and delays for taking water, and the fuel capacity will carry the locomotive through on long passenger runs without stopping for fuel. The tenders weigh 252,200 lb. in working order and are carried on Commonwealth cast steel six-wheel trucks. The tender frames are also of Commonwealth cast steel design. The brakes are of the clasp type furnished by the American Steel Foundries.

Among the specialties which have not been mentioned are the Ragonnet reverse gear, Walschaert valve gear, Chambers outside type throttle valve, Consolidated safety valves, Great Northern flange oilers, Franklin automatic adjustable driving box wedges, New York schedule 6ET air brake with 8½-in. cross-compound air compressor, King metallic packing, Hunt-Spiller cylinder and valve chamber bushings, Pyle-National headlight generator with Golden Glow reflector, Unit safety drawbar, McLaughlin flexible joints between engine and tender in steam, air and oil lines; Miner friction draft gear on tender, and Imperial Type B uncoupling attachment.

The leading dimensions, weights and proportions are shown in Table II.

In connection with these powerful Mountain type locomotives, it is interesting as a study in contrasts to note that when the first engine, No. 2500, was received at St. Paul, it was placed alongside the "William Crooks," the first locomotive run in the State of Minnesota. This locomotive was built in 1861, more than 60 years ago, by Smith & Jackson, Paterson, N. J., for the St. Paul & Pacific, which subsequently became a part of the Great Northern system. This old locomotive had 12-in. by 22-in. cylinders, 63-in. drivers, weighed 55,400 lb. and had a rated tractive force of 5,130 lb. Having one-tenth of the tractive force of the new Mountain type locomotives, it looks rather diminutive at the present time, although in its day it was capable of handling any train.

TABLE I—SOME RECENT MOUNTAIN TYPE LOCOMOTIVES

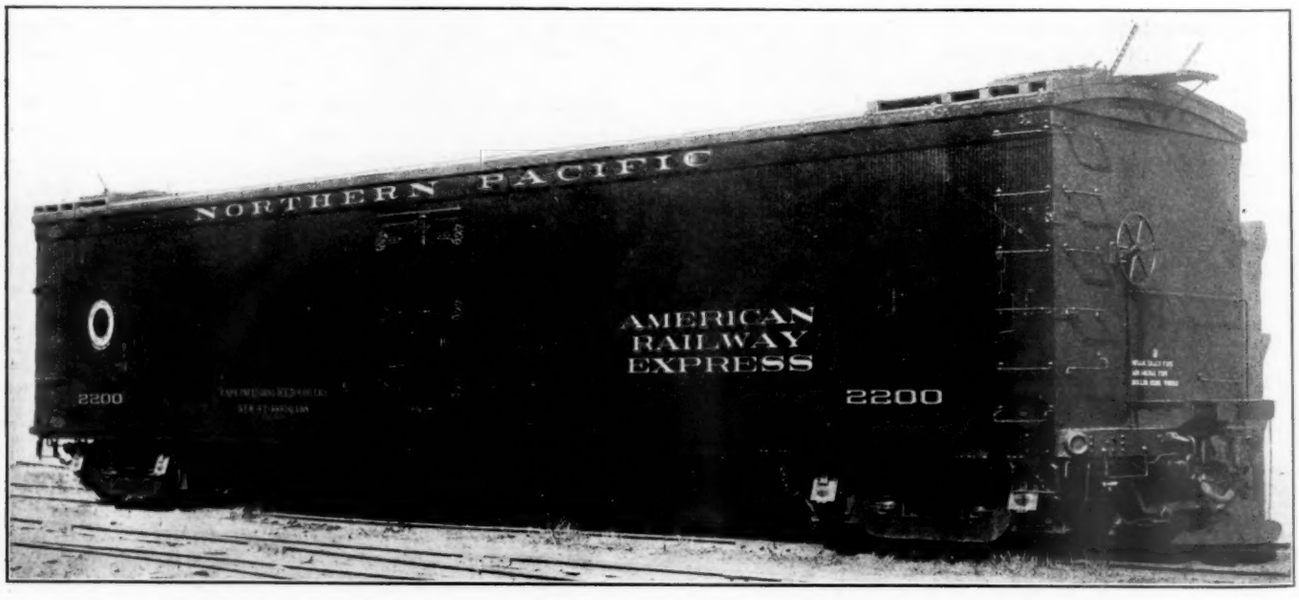
Road	Cylinders in.	Drivers, in.	Weight, lb.	Tractive force lb.
Great Northern	29 by 28	73	365,600	54,830
Union Pacific	29 by 28	73	345,000	54,840
Chicago, Rock Island & Pacific	28 by 28	74	369,000	50,400
Canadian National	26 by 30	73	339,000	49,600
Chicago, Burlington & Quincy	27 by 30	74	350,000	52,750
Denver & Rio Grande Western	28 by 30	63	377,000	66,570
Missouri Pacific	27 by 30	73	335,000	53,500
U. S. R. A., Light	27 by 30	69	327,000	53,900
U. S. R. A., Heavy	28 by 30	69	352,000	58,000

TABLE II—DIMENSIONS, WEIGHTS AND PROPORTIONS

Railroad	Great Northern	
Builder	Baldwin Loco. Works	
Type of locomotive	4-8-2	
Service	Passenger	
Cylinders, diameter and stroke	29 in. by 28 in.	
Valve gear, type	Walschaert	
Valves, piston type, size	14 in.	
Weights in working order:		
On drivers	242,000 lb.	
On front truck	62,700 lb.	
On trailing truck	60,900 lb.	
Total engine	365,600 lb.	
Tender	252,200 lb.	
Wheel bases:		
Driving	19 ft. 0 in.	
Total engine	41 ft. 7 in.	
Total engine and tender	83 ft. 0½ in.	
Driving wheels, diameter outside tires	73 in.	
Boiler:		
Type	Extended wagon-top	
Steam pressure	200 lb.	
Fuel	Bit. coal	and oil
Diameter, first ring	84 in.	
Firebox, length and width	132 in. by 96 in.	
Tubes, number and diameter	232, 2¼ in.	
Flues, number and diameter	50, 5½ in.	
Length over tube sheets	22 ft.	
Grate area	88 sq. ft.	
Heating surfaces; sq. ft.:	Coal	Oil
Firebox and comb. chamber	333	340
Syphon or arch tubes	126	39
Tubes and flues	4,566	4,566
Total evaporative	5,025	4,945
Superheating	1,368	1,368
Comb. evaporative and superheating	6,393	6,313
Tender:		
Water capacity	12,000 gal.	
Fuel capacity	20 tons coal, or 5,000 gal. oil	

General data estimated:

Rated tractive force, 85 per cent	54,830 lb.
Cylinder horsepower (Cole)	3,030 hp.
Weight proportions:	
Weight on drivers ÷ total weight engine, per cent	66
Weight on drivers ÷ tractive force	4.41
Total weight engine ÷ cylinder hp	120.66
Boiler proportions, coal burner:	
Comb. heat surface ÷ cylinder hp	2.11
Tractive force ÷ comb. heat. surface	8.58
Tractive force × dia. drivers ÷ comb. heat. surface	626
Cylinder hp. ÷ grate area	34.4



New Northern Pacific Refrigerator Car for Passenger Train Service—Capacity 70,000 lb.

Public Service Commissioners Meet at Miami

Highway Crossing Accidents and Suggestions for Regulation of Motor Vehicle Traffic Leading Topics

THE NATIONAL ASSOCIATION of Railway and Utility Commissioners held its 1923 convention at the Hotel Urmey, Miami, Fla., on December 4, 5, 6 and 7. Representatives were present from the Interstate Commerce Commission and from the public utilities commissions of about 40 states. Leading topics of discussion included accidents at highway grade crossings, the problem of establishing regulation for motor truck and motor bus traffic, co-operation of state commissions with each other and with the Interstate Commerce Commission and the general subject of the functions of the state commissions under the terms of the Transportation Act.

The presiding officer of the convention was the president of the association, Dwight N. Lewis of the Iowa commission. The meeting was addressed by Justice William H. Ellis of the Supreme Court of Florida; by Carl D. Jackson, representing the American Gas Association and the National Electric Light Association; by M. H. Aylesworth, executive manager of the National Electric Light Association; by Donald D. Conn, of the A. R. A. Car Service Division; by C. F. Staples, director of the Bureau of Valuation of the Interstate Commerce Commission and others. A feature of the meeting was a discussion of the super-power plan for combining the water power resources in groups of states for common distribution led by W. D. B. Ainey, chairman of the Public Service Commission of Pennsylvania. In connection with this discussion an address was made by W. F. Murray, representing Secretary Hoover. Highway grade crossing protection and the regulation of motor vehicle traffic were also made the topics for round-table discussion.

Address of President Dwight N. Lewis

Dwight N. Lewis, president of the association, spoke in his presidential address in part as follows:

"Your special committee charged with the duty of seeing President Harding relative to proposed changes in the Transportation Act of 1920 and to securing of sufficient appropriation for the Interstate Commerce Commission to enable it to go on with the work of valuation of railroads, performed its duty. We were received by the President with all the graciousness and charm which has now become a cherished memory of a good man. Since that interview your association president has been in more or less constant touch with Senator Cummins, chairman of committee on interstate commerce of the Senate. The senator has assured me that he was entirely favorable to such amendment as will clarify the situation as to the powers of state commissions, assuring the return to the state boards, the power and authority it was never his intention should be taken away. To those interests which are insisting there shall be no amendments to the transportation act it must come as a rude shock that Senator Cummins himself is insisting upon amendments.

"While recently in Washington I had the pleasure of discussing our commission problems with President Coolidge whom I found not only to be an attentive listener, but ready frankly to express his own views, in so far as he had reached conclusions.

"President Coolidge was pleased to have the point of view of this association presented to him and cordially thanked me for its contribution toward helping him reach a conclusion in the transportation question. He expressed his regret that he would be unable to meet with us but that he would surely discuss our problems with Senator Cummins for whose judgment on transportation matters, he had great respect, and that he hoped, before our convention adjourned, we should be advised of some of his conclusions at least, through his message to Congress.

Car Shortage

"The car supply and distribution questions have been acute everywhere. Our special and regular committees have done splendid work, details of which, together with the regional and district co-operative organizations, will be brought to your attention later during this convention. Every state commission should be alert to the car situation and co-operate with all other agencies to the end that our shippers shall be put to the least possible inconvenience and loss due to any car shortage. Carriers should be urged to increase their daily loaded car mileage and we must insist that shippers load and unload cars promptly in time of acute shortage, not taking advantage even of the demurrage rules.

"With the advent of good roads and advanced freight and passenger rates, a new factor in public transportation has arisen to demand recognition. . . . These new agencies of transportation should be regulated. They should be regulated for the protection of the public, competing carriers providing adequate service, and from themselves. The members of this association should accept the responsibility of working out this problem. There should be uniformity of laws and co-operation in administering them.

Co-operation

"Whatever may be done to the transportation act of 1920, I hope no impious hand is laid upon that feature of the law which provides for co-operation between state and federal commissions. This co-operation should and does extend to co-operation between the states.

"This co-operative effort is to my mind one of the most important and far reaching effects of the Transportation Act of 1920, and is capable of being the means of fairly and amicably adjusting traffic differences in all sections of our country. There is today, a fine spirit of co-operation existing in all commissions, state and federal, and I believe this is the most noteworthy contribution to the problems of transportation regulation during the past year.

"There is one difficulty in connection with this co-operation scheme, however, that must be remedied if we are to function properly. It has been exceedingly difficult to finance co-operative efforts on the part of the states. Some states have been liberal with their commissions so that funds have been available for this purpose. Others have not. I charge every state commission to represent to its legislature, with all the power at its command, the necessity of providing a fund sufficient to take care of this most important work of state commissions. More and more, transportation problems will transcend state lines; less and less will state lines be considered in rate adjustments. We must meet the situation with candor, and have sufficient funds provided by our legislatures that we may protect the interests of the people of our respective states in all transportation matters, state or interstate. Not that we shall have less authority, but through the scheme of co-operation extend the lines of our influence far beyond our own restricted borders.

"Notwithstanding the adverse criticisms lavishly bestowed upon state commissions by pro-railroad journals supposed to be devoted to the impartial discussion of traffic matters, such

state commissions have been averse to making any great reductions in even local freight rates, and will continue to take this attitude, until returns, under careful management, are indicative of a greater prosperity than has been apparent for some time past. Conditions are improving, however, and it may be that in the not distant future general reductions will be justified. The country feels the burden of the high rates, and for the same cause perhaps that the lunatic seems to have it in for the best friends of his saner days, we sometimes, in stress of economic troubles, undertake to rend the transportation company or other utility, upon which we must absolutely depend. Without adequate transportation our great inland agricultural empire would revert to the grass and flower-strewn prairies of other days. It is unfortunate that in the settlement of all these great economic questions, political preferment should play so great, and too often, a controlling part. State commissions should be constantly alert to keep the public advised of the exact situation at all times. The people are fair, and will deal justly and fairly with all interests when properly advised.

"Let the carriers and all other utility companies come clean, give us state commissions with the courage of their convictions, and although the way may be beset with demagogues and other pitfalls, we shall arrive at just conclusions, fair alike to the company and the consumer.

Valuation

"The valuation committee of this association has produced a comprehensive analysis of the activities of the railroad lobbying body known as the 'Presidents' Conference Committee.' The activities of that committee have been directed to the compilation of data with the purpose of inducing the Interstate Commerce Commission to increase its valuation. The data consists of voluminous exhibits gathered on specially selected cases. These studies are being presented at the hearings on valuation of the various railroads. The unfair methods employed are exposed in the brief prepared by counsel for your valuation committee, a summary of which has been made and distributed to each of the several commissions under the title of 'Report of Eugene W. Reed, Special Valuation Counsel, to the Hon. F. P. Woodruff, Chairman of the Valuation Committee, of the National Association of State Railway and Utility Commissioners.'

"The Chicago, Rock Island & Pacific valuation case is all briefed except in the final showing. The Great Northern case opened on October 29, and this association is represented by the advisory valuation committee. As the final and tentative valuations are being reached it becomes more apparent that if our association is to do the important work it has started out to do under the leadership of our valuation committee, we should employ valuation counsel."

Report on Grade Crossings

From the viewpoint of railway readers the report of the Committee on Grade Crossings and Trespassing on Railroads was the most important and most interesting report presented at the commissioners' meeting. The committee which prepared it was headed by William T. Gunnison of New Hampshire. The report was an elaborate discussion of the entire problem of grade crossing accidents and is reproduced here nearly in full:

Grade crossing protection has resolved itself into a question between the railroads and automobiles. Of all those killed or injured at railroad crossings during the calendar year 1922, 81 per cent were occupants of automobiles at the time of the accident, whereas for the year 1917 only 59 per cent were automobilists. During this period the automobile registration jumped from 4,983,340 to 12,238,375, an increase of over 245 per cent. On the Pennsylvania Railroad the grade crossing accidents during June, 1923, were 60 per cent greater than for June, 1922, and 115 per cent greater than for June, 1920. For the quarter ending December 31, 1922, more than 30 per cent of the grade crossing accidents for all of the states happened at protected crossings. This fact shows conclusively that the only way to eliminate the danger at grade crossings is to separate the grades.

The Pennsylvania Public Service Commission within the past few months has made a canvass of all of the states on—

THE MANNER OF THE APPORTIONMENT OF COSTS OF THE ELIMINATION OF GRADE CROSSINGS

State	Apportionment of costs fixed by	Average percentage of costs imposed upon the railroads
Calif.	Com'n ...	50% of the cost of eliminating existing crossings. If the railroad desires facilities to accommodate future tracks, the excess cost due such additional tracks is usually assessed on the railroad.
Colo.	Com'n ...	50% where federal aid is not available. 33⅓% where federal aid is available.
Conn.	Statute ..	100% where the railroad petitions the commission for alteration or elimination.
		75% where the municipality petitions the commission for alteration or elimination of a grade crossing where the highway affected was in existence when the railroad was constructed at grade or if the layout of the highway was changed for the benefit of the railroad after the layout of the railroad.
		50% where the municipality petitions the commission for alteration or elimination of a grade crossing where the highway affected has been constructed since the railroad which it crosses at grade.
		75% where the commission on its own motion orders the alteration or elimination of the crossing.
Illinois	Com'n ...	60% but in recent orders, 50%.
Indiana ...	Statute ..	75% in general. 50% on roads under the direction of the State Highway Commission.
Kansas	Com'n ...	50% after federal aid has been deducted.
Maine	Statute ..	65%.
Mass.	Statute ..	65%.
Missouri ..	Com'n ...	60% to 75%.
Montana ..	Com'n ...	40% to 50%.
Nevada	Com'n ...	33⅓% except in special cases.
N. Jersey..	Statute ..	100% except where a street railway is involved in which event an amount not exceeding 10% of the total cost is borne by the street railway.
New York..	Statute ..	50% of the cost of eliminating crossings existing prior to July 1, 1897.
		50% of the cost of construction when a new street is constructed across an existing railroad.
		100% of cost of construction when a new railroad is built across an existing highway.
N. Caro....	Statute ..	50%.
Ohio	Statute ..	65%.
Okla.	Com'n ...	Not less than 50%.
Oregon	Com'n ...	40%.
S. Caro....	Com'n ...	50%.
Tenn.	Statute ..	50%.
Utah	Com'n ...	50%.
Vermont ...	Statute ..	65%.
Virginia ...	Statute ..	50% where the improvement is to be made in the highway.
		100% where the improvement is to be made in the railroad.
W. Va.....	Com'n ...	50%.
Wis.	Com'n ...	50% to 90%.

It is generally recognized now that it is unfair to place the whole expense of eliminating railroad crossings upon the railroads. In many states, as shown above, legislation has been passed placing a part of this burden upon the state and municipality. But it seems to your Committee that the time has come when in some form the automobilist should be called upon to share in this expense.

Railroad Train Has Right of Way

These accidents are too often due to his reluctance to stop or slow down his car when approaching railroad crossings. In his desire for speed he refuses to concede that the right of way belongs to the railroad train, resulting in many fatalities. He proceeds as though it were the duty of the train to stop and permit him to pass in safety. He seems to have lost sight of the fact that the railroad train has the right of way, and that when it has performed its duty of notifying the traveler that it is about to exercise that privilege, it becomes his duty to stop and keep out of the way of the passing train.

The New Hampshire commission on September 5, 1923, to de-

termine what effect the automatic wigwag, flasher, and bell signal at grade crossings had upon the automobilists, set a signal in operation and careful note was made of how the drivers of motor vehicles operated their cars as they approached the crossing. Thirty-four per cent of them paid absolutely no attention to the signal, though it was in active operation, while only 31 per cent stopped and waited until the signal ceased to operate before proceeding. The remaining 35 per cent either stopped and looked, but proceeded before the signal ceased to operate, or simply slowed down without coming to a full stop. The significant thing about this experiment is, that so large a number paid absolutely no heed to the signal, and that only 31 per cent exercised proper care.

Since the automobilists by their conduct make it necessary to remove the railroad tracks from the highway in order that they may not be obstructed in their travel, it seems just that they contribute toward the expense of doing it.

A general tax on all automobilists for this purpose would be objectionable in so far as it would be a tax upon the careful driver as well as the careless driver. But even so, the careful driver would be benefited by having an impediment to his progress removed from the highway. If, however, it is not practicable to levy a general tax upon all automobilists, reckless drivers might be made to pay something toward this end by diverting all fines imposed upon them for reckless driving into a fund to be expended for the purpose of abolishing grade crossings.

Apportionment of Grade Elimination Cost Should Be Uniform

Just what should be the apportionment of the cost between the railroad, the public, and the automobilists is a question for each state to decide, but there does not appear to be any good reason why the apportionment should not be fairly uniform. Commissions, where they have jurisdiction, have almost invariably divided the expense evenly between the public and the railroads. If the automobilists are called upon to contribute their share it should not be less than 20 per cent, and should be deducted equally from what the railroads and the public have heretofore paid. This would make the apportionment 40 per cent to the public, 40 per cent to the railroads and 20 per cent to the automobilists in those states where the public and railroads share 50-50 in the expense.

Crossing protection is a very live issue and should be given very careful consideration. The desirable thing is to do something which will compel the automobilist to exercise proper care. If he is careful there is no likelihood of his being struck by a train. At every crossing there is displayed in large letters a sign in plain view. . . . At crossings where the travel is heavy, or where the view of approaching trains is obstructed, there is either a human flagman, gates, or an automatic device. . . . We can suggest no form of protection more effective than those now in use.

Warning Devices Should Be Uniform

The various devices for warning the traveler should be as nearly uniform as possible in order that he may not mistake them for some other kind of a sign. It is highly necessary that the sign stand out conspicuously with no other sign, especially of a similar kind, near it, also that no other signs be permitted along the highway between the warning signs and the crossings. . . . If there is anything that can be done to stop recklessness, it should be. We believe it would help to bring this about to have the railroads collect damages of the automobilist by suit, if necessary, when the cause of the accident is clearly due to his negligence. Not infrequently trains are derailed by colliding with motor vehicles. The highway traveler owes a duty to the railroad to keep out of the way of its trains when the railroad has performed its duty by giving due notice of the approaching train. The failure of either party in the performance of this reciprocal duty places the one at fault for all damages resulting to the innocent party.

Under the practice now in vogue of always suing the railroad in crossing accident cases, regardless of where the blame lies, and the attitude of the railroad to be satisfied to get a favorable verdict by showing contributory negligence without in any way attempting to recover for damages suffered by it due to the negligence of the traveler, has the effect of focusing upon the public mind the duty of the railroad to the traveler without in any way emphasizing the correlative duty owed by the traveler to the railroad. The result is that very few people ever consider the possibility of the traveler's liability to the railroad. If the traveler realized that the law held him accountable for the injury caused the railroad by his negligence he might be more careful.

Legal Restraint

But after all is said and done, the only sure way to make grade crossings safe for the reckless driver is to do something to oblige him either to slow down his car or to come to a full stop before proceeding over the tracks of the railroad. This cannot be done by a statute requiring the automobilist to slow down or come to a stop unless it is supported by public sentiment. Without public sentiment back of it, public officials will meet with great difficulty in enforcing it. Moreover, it is a well-known fact that public officials are not very enthusiastic over enforcing a law which their constituents do not favor. Therefore, in those states where such a law is not popular, it would be futile. But, whenever such a law can and will be enforced it should be passed, as it is absolutely necessary in the interest of safety to life and property.

Where, however, such a law cannot or will not be enforced, the advisability of placing some obstruction in the highway, which will oblige the automobilist to slow down, may well be considered. We understand that this has been tried in various ways in a number of states with rather indifferent success. It would be instructive to learn at this convention from the commissioners from these states, how the law has worked out in practice.

Conclusions

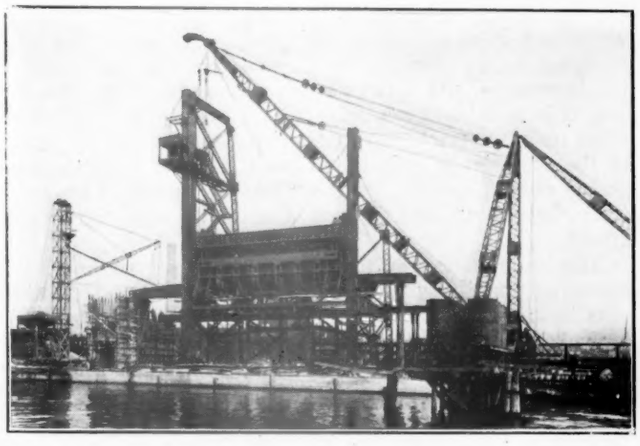
1. No grade crossing can be adequately protected against the careless traveler such as the reckless automobilist.
2. It is necessary in the interest of public safety, to create no new grade crossings except in cases of absolute necessity, and to abolish those now in existence as rapidly as is consistent with the financial means of those bearing the expense.
3. The expense of abolishing the railroad crossings should be borne proportionately by the railroads, states and municipalities, and automobilists.
4. The grade crossings should be protected by the railroad in such a way as not only to notify the traveler that he is approaching a crossing but also to notify him when a train is about to pass over the crossing.
5. Public sentiment requiring the traveler, especially the automobilist, to use proper care at railroad crossings should be cultivated.
6. Where there is such sentiment sufficient to guarantee the enforcement of a law obliging an automobilist to slow down, or come to a complete stop before proceeding over a railroad crossing, such a law should be passed.
7. Where there is not such sentiment, some means should be devised, such as placing obstructions in the highway, which will make it physically impossible for the automobilists to go over railroad crossings at a dangerously high rate of speed.

Trespassing on Railroads

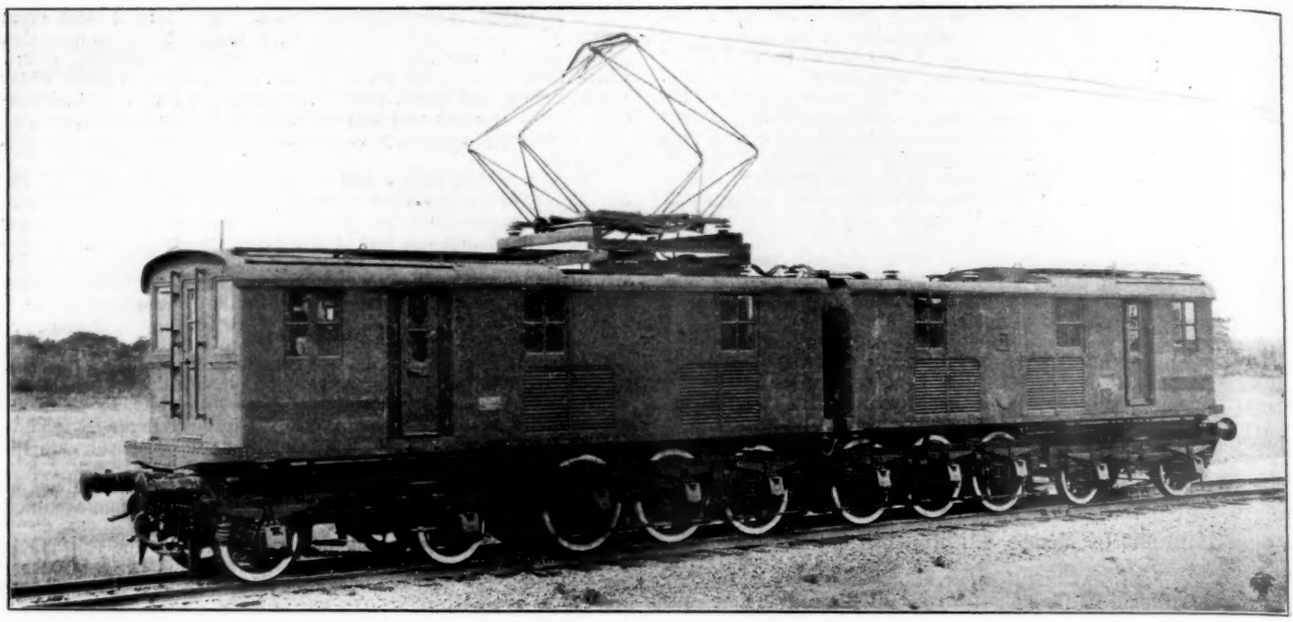
The number of trespassers killed or injured by railroad trains continues to be about the same. For the year 1922 the number of trespassers killed was 601; for 1921, 618; and for 1920, 601; while the number injured for the corresponding years was 659, 744, and 588, respectively.

These accidents are absolutely unnecessary, as the injured or killed have no legal right to be on railroad property. The remedy is to develop public sentiment against it. People will not continue an unpopular practice. Many states have laws making trespassing on a railroad's right of way a criminal offense. When the enforcement of this law is demanded by public sentiment, trespassing will cease, but until it is enforced there will continue to be those who will walk upon railroad tracks either for convenience or pleasure, resulting often in serious if not fatal injuries. Anything the commissions can do to cultivate this public sentiment will be a real benefit to the common welfare.

[Other proceedings of this meeting will be reported in a subsequent issue of the *Railway Age*.—Editor.]



Building New Car Dumper for the Philadelphia & Reading at Port Richmond, Philadelphia



Electric Locomotive Built by General Electric and American Locomotive Companies for Paris-Orleans Railway

Electric Locomotive Tested at 105 Miles an Hour

Locomotive Built for Paris-Orleans Railway Placed on Exhibition Test at Erie, Pa.

SPEED TESTS of the new type electric locomotive built by the General Electric Company and the American Locomotive Company for the Paris-Orleans Railway, were held December 4 and 5 at Erie, Pa., before a large gathering of railway representatives.

In order definitely to determine the riding qualities of this locomotive, a large number of runs were made over the 4½ miles of test track at Erie, operating at speeds between 60 and 80 miles an hour. On one test the locomotive made a sustained speed for a distance of about one mile of 95 miles an hour, the locomotive running light. On a preliminary test made December 2, the locomotive was run at 105 miles an hour.

Guests were carried in the forward and rear cabs, where they observed the riding qualities of both ends and also observed speed indicators and other instruments. The locomotive operated successfully at these high speeds and there was no indication of periodical oscillation or nosing. The tests included critical observation of both the front and rear of the locomotive, and there was no apparent tendency toward any objectionable movements which might have injurious effect upon the track. Records were also obtained by means of the Otheograph, which indicated unusual freedom from nosing at high speeds. Examinations were made of the track after these runs and showed absence of any detrimental effects.

The commutation of the motors was observed under all operating conditions and reported to be excellent. Other tests included commutation tests with rapidly changing trolley voltage and wheel slipping with and without sand.

The locomotive was designed for the purpose of supplying a unit having approximately 80 tons on drivers and having a maximum free running speed of 80.8 miles an hour. The locomotive was ordered by the Paris-Orleans Railway from the Compagnie Francaise Thomson-Houston, the International General Electric Company's associated manufacturing company in France. The Compagnie Francaise Thomson-Houston has received orders for more than $15,000,000 worth of equipment for this electrification and orders aggregating $2,500,000 have been placed through the International General Electric Company with the General Electric Company in the United States.

Electrical Data	
Nominal voltage of system	1,500 volts, d. c.
Average line voltage assumed	1,350 volts.

	One Hour	Continuous
Rated Tr. Eff. (1,350 V.)	14,586 lb.	12,540 lb.
Speed at rating (1,350 V.)	60 m. p. h.	63 m. p. h.
Total horsepower*	2,370	2,130
Number of motors	6	
Type of motors	GE-101-A	
Voltage of motors	750	
Tractive effort at 30 per cent tr. coef		47,960 lb.

Mechanical Data	
Track gage	56½ in.
Diameter of drivers	47.2 in.
Number of driving axles	6
Diameter of guiding wheels	36 in.
Number of guiding axles	4
Total wheelbase	53 ft. 6 in.
Max. rigid wheelbase	9 ft. 3½ in.
Width over-all	9 ft. 6 in.
Length over buffers	62 ft. 0 in.
Height over trolley locked down	12 ft. 6 in.

Weights	
On drivers	159,720 lb.
Per driving axle	26,765 lb.
Dead weight per guiding axle	9,064 lb.
On guiding axles	79,200 lb.
Per guiding axle	19,690 lb.
Elec. and air brake equipment	102,880 lb.
Mechanical equipment	138,600 lb.
Total weight	238,480 lb.

*French horsepower = 736 watts.

The locomotive is of the gearless type, having two three-axle driving trucks and a two-axle guiding truck at each end. The control and auxiliary equipment is carried in two box cabs, each of which is attached rigidly to the driving

truck. The three-axle driving trucks are connected by an articulated joint and each guiding truck is articulated at its inner end to the main truck. At its outer end, the forward portion of the cab is supported on a double roller centering device. The motor fields and frames are constructed to form an integral part of the truck frame and running gear and the armatures are mounted directly on the driving axles. Current is collected from an overhead trolley approximately 20 ft. above the rail by means of the usual sliding pantograph, one of which is mounted on each cab.

General dimensions and data are given in the table on the opposite page.

Petition of Valuation Conference Denied

Interstate Commerce Commission Again Gives Interpretation of Provisions of Valuation Act

WASHINGTON, D. C.

THE INTERSTATE COMMERCE COMMISSION has again made public a written debate among its members regarding the interpretation of the valuation act in connection with a decision of the commission denying a petition of the National Conference on Valuation of American Railroads, of which Senator La Follette is chairman, which asked a recommittal to the Bureau of Valuation of all valuation proceedings now pending, with instructions to ascertain and report the original cost to date of railroad property and the amount and value of aids, gifts, grants of right-of-way, or donations. The petition on behalf of the valuation conference was filed by Donald R. Richberg in connection with oral argument before the commission in a number of valuation cases last July. A supplemental petition in support of it was also filed on behalf of the Governor of Wisconsin. The petition set forth allegations of failure to comply with requirements of the valuation act in not ascertaining the original cost of railroad property and the amount of public donations to railroads, and in not reporting the methods whereby final values are fixed.

Commissioner Potter filed a separate concurring opinion, in which Commissioner Cox joined. Commissioners Eastman and McManamy filed separate opinions dissenting in part. These four commissioners believe a finding of original costs should be made. Commissioners Esch and Campbell did not participate in the disposition of the matter.

The commission says that in its report in the Texas Midland case it set forth sufficiently its interpretation of the requirement of the valuation act with respect to the reporting of original cost to date and at the hearing upon protest in each case full opportunity is afforded interested parties, including the petitioner, to present evidence bearing on any error, whether of commission or omission, which is made the subject of protest and by evidence to supply what is lacking. The commission also finds that its procedure in ascertaining information with respect to aids, gifts, grants and donations is in substantial compliance with the valuation act and that an analysis of its method of arriving at final value is not required by law.

As to the prayer of the petition that, in the event the commission declines to re-commit the valuations, it specifically state its construction of its duties under the act and its reasons for refusal to accept the construction of those duties and requirements made by the petitioner, to the end that the requirements of the act may be clearly defined and determined by competent judicial authority, the commission says that in this report it is setting forth the reasons for what it has done to the extent necessary for a proper determination of the issues raised. As to the request that the commission enter an order directing that notice be given to the valuation conference, addressed to the office of Senator La Follette, of all valuation proceedings and that the petitioner be granted the right to intervene in such proceedings, the commission says that this prayer has heretofore been granted and that the information requested is from time to time being furnished.

The commission says that in its valuation order No. 16 it directed each common carrier to report the information called for by the law as to aids, gifts, grants and donations. The returns have been checked and the information is set forth in the valuation reports. The commission has also sought to utilize other sources of information and has made or is making independent appraisals of present value. Full opportunity is afforded interested parties to supply by evidence whatever may be lacking but in the cases now before it neither the petitioner nor any other interested party has taken this course. "There must be some limit to our expenditures of public funds in research," the commission says. "We are of opinion that our course has been in substantial compliance with the statute."

The commission says that it at first postponed ascertainment of the value of land-grant lands which fell within the classification of non-carrier property in pursuance of its policy first to value the property owned or used for the purposes of a common carrier, but much of the non-carrier land has been appraised, the work is still in progress, and it will report separately upon the non-carrier land grants as to which the facts will be given appropriate consideration at the proper time.

Regarding an analysis of the methods employed, the commission says that each report issued contains a reference to Appendix 3 of the Texas Midland report for a statement of the methods employed in valuing the property and for the reasons for the differences between the various cost values reported, but that this analysis omits any description of the methods by which final value is fixed and that it is apparently to this omission that petitioner objects. The report then calls attention to the fact that analyses of methods are mentioned in three places in the act referring to methods of arriving at costs, other values and elements of value, if any, but that there is nothing in the paragraphs which require the commission to state an analysis of the methods employed in fixing the final value. The finding of final value, the commission says, is essentially a matter of judgment based upon a consideration of all relevant facts and "a detailed analysis of the method of arriving at a judgment would in the nature of things call for a description of the mental processes of those to whom was delegated that function, and in our case this would involve setting forth the mental processes of 11 men who may have reached the same conclusion by different paths."

Commissioner Potter, concurring with modification, said in part:

"I agree with the majority that we should not grant the motion to remit proceedings to our bureau with instructions. The task of valuation is for the commission, and we may perform it ourselves or in our own way if we proceed regularly and make the findings which the law requires. I do not concur in the reasons of the majority for its action. I think that

in all of our valuations we should make the findings which the petitioner desires, and I apprehend that our final valuations are invalid when we do not do so. There is, in my judgment, no serious difficulty in making the findings which petitioner suggests. The majority assumes that there is difficulty and takes far too seriously the burden of finding original cost. Like most impossible tasks, it can be done. We are not directed to report book entries. We are to investigate and report a conclusion, and we are not relieved from that task if some one has made it more difficult by destroying records. We arrive at our conclusion the same way we arrive at other conclusions—by using the best competent evidence that is available. Where cost is the question and records are not available, evidence as to what the cost should have been is always competent. An estimate may, in fact, be much more reliable than a book entry of actual payment.

"It is necessary in order to deal with the facts peculiar to each carrier to proceed as petitioner contends, and to make findings regarding the various elements that determine value. We should announce principles in accordance with which we will rate them. In a general way they fall into classes. For instance, there is the mistake class—carriers non-essential, and which should be scrapped. Carriers have no greater right than any other enterprise to have losses due to mistakes placed upon the public. Such carriers should be valued at their realizable value on sale through being taken up or otherwise. Another class would include carriers which are essential though their showing of public service, capacity, efficiency, and earning is limited. As to these I incline to the view that, with certain limitations, original cost to date or prudent investment should be protected and is to be accepted as the measure of value. Where it appears as to an essential carrier that there is no likelihood of it being able, under rates reasonable in its section for railways as a whole, to earn a fair return on original cost or prudent investment, because perhaps of mistake in part in location or construction, or because of exhaustion of tonnage, there, seemingly, is no warrant for valuing it above the value indicated by returns even though this be below original cost. In such case excessive value would inure to the advantage of other lines and increase the shippers' burden without benefiting the carrier directly involved. As to such carriers knowledge of original cost is a basic requisite, and we must have it. A third class would include carriers which have shown service, capacity, efficiency, and earnings of high degree due to the wisdom of their conception, construction, etc. Such carriers may have demonstrated that if they were not now in existence it would be wise to construct them on the basis of reproduction cost. Reproduction cost should be considered in relation to value and to some extent may have influence in determining value, but is not controlling. Certain carriers superior in a greater degree may have a value greater than reproduction cost. Past, present, and prospective earnings, amount and character of securities, and their selling values are also to be considered in rating carriers.

"We should determine upon and announce the principles we apply in analyzing the merit of the carriers. The specific findings that the statute requires are essential. In this way an administrative body would assure consistency in its work, exhibit intelligent reasons for what it does, furnish opportunity for review of its action by other tribunals, and provide protection against its mistakes. Study of the merits and demerits of the various carriers, and thus determining their ranking and relative value in the light of sound economic principles to be openly and frankly applied by us, will avoid such calamities as will result from applying the rigid rule of reproduction cost. It would at the same time accord fair value to all carriers. If proceedings based on our findings are to avoid the defense of confiscation, we must find proper relative value and accord to each property its fair value based on its peculiar merit. We must therefore find and show that we have properly considered all the relevant elements and have given due weight thereto.

"The ascertainment of a figure of final value involves the exercise of judgment in finding the significance and relation of the various elements that determine value. It involves a judgment that acts upon factors which it grasps and is able to define. A judgment regarding the various elements must precede a judgment of the whole, and without the former the latter can not exist. Different treatment of the several elements in dealing with several lines will produce different conclusions respecting final values. Unless it is shown how the different elements were understood and treated, correction of error in the final judgment as to final value is impossible. In such a case our judgment can only be a guess, a jumble of elements and considerations which we do not understand. It is in fact worse than a good guess, for the influence we give to one particular element leads our judgment far astray.

"The final and tentative valuations that we have made to date demonstrate conclusively that we have applied to the extent of domination the inelastic rule of reproduction cost without due regard to whether resulting values are fair, excessive, or too low. In following the course which I have suggested or some modification thereof, properly worked out and determined upon, we would comply with the transportation act and the law of the land as announced in *Smyth* v. *Ames,* and other cases, and at the same time present to our own minds facts peculiar to each carrier in such manner as to make the most intelligent and consistent consideration of them possible.

"The first duty of a tribunal is to aim at just conclusions. The second is to so act that error will be discovered and corrected. No tribunal may, with propriety, act in such manner as to prevent the weighing of its reasons or the testing of its motives. It is certain that there is a large percentage of error in our valuation work. It could not be otherwise in a task of such magnitude, and particularly in view of the handicaps we are under in performing it.

"In a separate expression, which I expect to file at an early date in a valuation case, where I shall attempt to illustrate the unsoundness and insufficiency of our procedure and point out the course I think we should follow in valuing properties, I shall explain more at length the reasons why I am generally in accord with the contentions of the petitioner as to the findings we should make."

Commissioner Eastman pointed out that in his dissenting statement in the San Pedro case he had expressed the opinion that value for rate-making purposes should be based on the amount invested honestly and with a reasonable degree of providence in the property. The fact which petitioners want reported is necessary to the determination of so-called final value, he said, and the commission has full authority to ascertain all necessary facts and should exercise that authority.

Commissioner McManamy dissented from the action of the majority to the extent that the omission of the report to state that a finding of original cost will be made may indicate that such a finding will not be made. "I cannot escape the conclusion," he said, "that this is specifically required by the statute and that it was the intent of Congress that this finding should be made from the best evidence available in each particular case. I am also of the opinion that such a finding can be made without resorting to estimates, to an extent that will materially impair its value."

MENNONITES FROM SOUTHERN RUSSIA, to the number of 2,500, have settled in western Canada during the past year. Most of them were placed in the Rosthern District, northern Saskatchewan. So keen are these people to adopt Canada as their home land that they have established 25 night schools for the sole purpose of learning the English language and adopting Canadian customs.

The Revision of Express Rates Prescribed

Parties Concerned Have Until March 1 to Show Cause Why Findings Should Not be Made Effective

WASHINGTON, D. C.

A GENERAL REVISION of the express rate structure throughout the United States, representing a modification of the plan ordered by the commission several years ago, has been prescribed by the Interstate Commerce Commission as the result of its investigation of express rates originated by an order of July 6, 1922, No. 13,930. The changes, however, are not ordered but the parties to the case are given until March 1 to show cause why the commission's findings should not be made effective. The commission also found not justified proposed increases in express rates asked in a petition filed by the American Railway Express Company for itself and the railway lines over which it operates. The Southeastern Express Company, while opposing any reductions in its rates, did not join in the application for increases.

A committee of five chairmen of state railroad commissions, selected by the National Association of Railway and Utilities Commissioners, co-operated with the federal commission with a view to the harmonizing of the interstate and intrastate express rates upon a proper basis. The commission also considered in connection with its investigation a complaint of the Ypsilanti Reed Furniture Company against the American Railway Express Company, No. 14,439.

While the petition of the express company was filed for itself and for the rail lines, the report says that the express company is assured a reasonable net return under the uniform contract between it and the rail lines, if anything like a fair amount of business is done, and that the evidence discloses that its own needs have been and are being amply met. The petition was, therefore, considered as primarily in the interest of the rail lines. After a discussion of the presentation made on behalf of the railways as to the necessity for an increase in express rates to produce a fair return, on the proportion of their property devoted to express business, the report says:

"Considering the manner in which expenses have been divided, subdivided, and apportioned on the basis of doubtful data and assumptions in an effort to arrive at express expenses, and the manner in which total property investment has been apportioned and reapportioned between services without regard to the quantity or value of the property actually used, on the strength of assumptions and costs which themselves have no secure foundation, it is clear that the figures submitted by the carriers can not be accepted as properly representative of the operating results of the express service.

"Nothing herein said or left unsaid is to be taken as a concession that the rail lines are entitled to secure, from purely transportation revenues and without regard to their participation in non-transportation revenues of the express company, a return of 5.75 per cent on the value of their property devoted to or used in the express service, which is the basis upon which they compute the desired aggregate increase of 19.46 per cent; or that they are entitled to such a return irrespective of their returns from other services. Upon such questions as these we express no opinion at this time. Above all, as first stated, express rates and charges are to be fixed with respect to the express service as one entity. The growing returns to the rail lines from express operations, on the other hand, are pointed out in the ensuing section of this report."

The conclusions and findings of the commission are as follows:

The fact of higher operating costs in the eastern territory, and particularly in zone 1, in the express service as a whole is not only established by evidence of record but is conceded by the express company which operates in all five zones. In the formulation of the present scheme of express rates the relative levels of average first-class freight rates played a prominent part and served principally to bring about the higher levels in zones 2, 3, 4, and 5. The developments on this record disclose that the subsequent increase of three scale numbers in zone 1 and between it and the other zones and of two scale numbers elsewhere was a step in the right direction. The evidence abundantly proves that as compared with zone 1 the levels in the other zones are still disproportionately high. This is virtually confirmed by the application for the different percentage increases. It is clear that there is no justification for the further maintenance of a higher level in zone 4 than in zones 3 and 5, and that the spread between zone 1 and the other zones should be narrowed. As far as the particular terminal-cost figures heretofore cited are concerned, and if the indicated operating costs alone were considered, it might seem to follow that the rate levels in zone 1 should be highest. Due consideration should be given, however, to the fact that zone 1 handles intrazone more traffic and produces more revenue than are handled and produced intrazone in the other four zones combined, with a more or less similar preponderance in the aggregate interzone business. Further, even to place the other zones on a parity with zone 1 would, upon this record, require sweeping reductions in the other zones and involve sacrifices in the express revenues which the service manifestly could not now bear. Subject to such modification as may be found to be appropriate upon a showing in response to the citation herein to show cause, the respective bases to be prescribed will, in our judgment, under present conditions, bring the zone relationships within limits which will avoid unjust discrimination and undue prejudice and preference as between the several zones.

As before indicated, in the exhibit submitted to support the petition for increased rates and charges it is asked that the eastern district be made to include the Pocahontas region. This, as explained by the rail lines' witness, is to make that district conform to the eastern rate-making group as defined in *Ex parte* 74. The Pocahontas region is not now embraced within express-rate zone 1, but falls within the boundaries of zone 2. The character of the express-rate structure would preclude a distinctive rate change confined to a portion of a zone. Every sound reason, including the segregation of express revenues and expenses according to the accounting groups under the uniform contract, makes it desirable that zone boundaries be changed to harmonize more nearly with the grouping made in *Ex parte* 74. Under our findings, therefore, amended zones 1 and 2 will substantially conform to the Eastern and Southern groups, respectively. While the general operating costs and conditions in present zone 4 in contrast with those on either side are the principal bases upon which we conclude that the common rate levels accorded to zones 3 and 5 should also be accorded to zone 4, and therefore prescribe the merger of those three zones into one, incidentally the new zone 3 will still substantially embrace the Western and Mountain-Pacific groups.

In No. 13930 we find:

1. That the increased interstate rates and charges prayed for in the petitions filed by the respondent American Railway Express Company have not been justified.

2. That the interstate express rates and charges applicable within and between the several rate zones will be, for the future, unreasonable and unduly prejudicial and preferential to the extent that they may exceed rates and charges constructed on the respective bases outlined in the succeeding paragraphs hereof.

3. That for the construction and application of the rates and charges to be prescribed, and to bring about a closer coincidence between the rate zones and the accounting groups under the uniform contract, the United States should be divided into three rate zones delimited by parallels of latitude and meridians of longitude[1] as follows:

[1] Throughout this report the meridians of longitude referred to are those west of Greenwich, England.

Zone 3, to embrace all the territory west of a line commencing at the intersection of the 91° meridian and the coast of the Gulf of Mexico and extending thence north to the 30° parallel, thence west to the 92° meridian, thence north to the 34° parallel, thence east to the 91° meridian, thence north to the 36° parallel, thence east to the 90° meridian, thence north to the 38° parallel, thence west to the 91° meridian, thence north to the 39° parallel, thence west to the 92° meridian, thence north to the 41° parallel, thence east to the 91° meridian, thence north to the 43° parallel, thence east to the 87° meridian, thence north to the 45° parallel, thence east to the 86° meridian, thence north to the 46° parallel, thence east to the 84° meridian, thence north to the international boundary.

Zone 1, to embrace all the territory east of the above-described line and north of a line commencing at the intersection of the 37° parallel and the 90° meridian, extending thence east to the 88° meridian, thence north to the 38° parallel, thence east to the 85° meridian, thence north to the 39° parallel, thence east to the 83° meridian, thence south to the 38° parallel, thence east to the 82° meridian, thence south to the 37° parallel, thence east to the Atlantic Ocean.

Zone 2, to embrace all the remaining territory.

Thus, zone 3 will comprise substantially the territory west of the Mississippi River, and will also include the greater part of Wisconsin and the Upper Peninsula of Michigan. Zones 1 and 2, with the amended boundary between them, will embrace the territory east of amended zone 3. The present system of grouping the express stations by means of the geographical main blocks formed by the parallels of latitude and the meridians of longitude, and by means of the subblocks hereinbefore described, the main blocks and subblocks numbered and lettered as heretofore, should be retained.

4. That the main-block first-class rates per 100 pounds to be applied between the block groups of points in amended zone 1 should be constructed by combining an express-terminal allowance of 35 cents, a rail-terminal allowance of 30 cents, and a basic haulage factor or transportation allowance of 25 cents for the first 50-mile unit or block of travel, subject to the further provisions of the succeeding paragraphs hereof.

5. That the main-block first-class rates per 100 pounds to be applied between the block groups of points in amended zone 2 should be constructed by combining an express-terminal allowance of 35 cents, a rail-terminal allowance of 30 cents, and a basic haulage factor or transportation allowance of 27.5 cents for the first 50-mile unit or block of travel, subject to the further provisions of the succeeding paragraphs hereof.

6. That the main-block first-class rates per 100 pounds to be applied between the block groups of points in amended zone 3 should be constructed by combining an express-terminal allowance of 35 cents, a rail-terminal allowance of 30 cents, and a basic haulage factor or transportation allowance of 30 cents for the first 50-mile unit or block of travel, subject to the further provisions of the succeeding paragraphs hereof.

7. That in the construction of the main-block first-class rates per 100 pounds for application, both intrazone and interzone, between the block groups of points in the three amended zones the respective basic haulage factors should decrease at the rate of 0.5 cent for each 50-mile unit or block of travel beyond the originating block for a total of 21 blocks of travel, including the originating block, after which the haulage factor per block of travel should be constant.

8. That in computing the main-block first-class rates per 100 pounds, both joint and local, between the various block groups of points in the three amended zones, for application intrazone and interzone, the formula described in the earlier section of this report should be followed as far as applicable and consistent with the specific findings herein; all such rates to be made multiples of 5 cents in accordance with the formula. In all instances, when the points of origin and destination are in different zones the haulage or transportation element of each compounded rate should be the sum of the allowances for each zone traversed for the number of blocks of travel in that zone, but based upon the total number of such blocks in the entire distance. For the latter purpose appropriate gateways, upon or adjacent to zone boundaries, upon which the through mileages can readily be divided, should be selected. While generally the formula should be observed, nevertheless in its application such exceptions should be made as are found necessary to avoid fourth-section violations, incongruous or anomalous results, and generally to produce as nearly as may be a symmetrical and equitable adjustment of rates and charges; the work of recasting the rate structure to be subject to our supervision, and all exceptions to the formula to be submitted for our approval before becoming effective.

9. That first-class subblock rates, in cents per 100 pounds, should be stated and applied in accordance with the following table; those for zone 1 being exceptions, somewhat higher than the main-block basis, in order to preserve substantially the present relationships to the long-haul rates:

From subblock of origin to subblock of destination in—	Zone 1 Cents	Zone 2 Cents	Zone 3 Cents
First block of travel:			
First subblock	90	80	85
Second subblock	95	85	90
Third subblock	100	85	90
Fourth subblock	105	90	95
Second block of travel:			
First subblock.. Second subblock	115	105	110
Third subblock Fourth subblock	125	120	125
Third block of travel:			
All subblocks	145	145	155

10 That the main-block and subblock second-class rates per 100 pounds and the graduated charges thereunder should not exceed 75 per cent of the corresponding first-class rates and graduated charges contemporaneously applicable between the same points.

11. That for the statement and application of the rates and graduated charges, a revised table of scales of first-class and second-class rates per 100 pounds should be compiled, together with graduated charges under each such scale for all weights from 1 to 99 pounds, both inclusive, computed in accordance with the formula; the table to consist of as many scales as may be necessary to the statement of any rate that may be compounded between any two points, the scales to be numbered serially from 1 upward; the first-class rate per 100 pounds under scale No. 1 to be 50 cents; and the successive first-class rates per 100 pounds to progress by the addition of 5 cents for each consecutive scale number.

12. That the present interstate commodity rates applicable to articles of food will be for the future unreasonable to the extent that they may respectively exceed the rates in effect on October 12, 1920, from and to the same points, and an appropriate order will be entered.

13. That the classification rating of first class applicable to racing or homing pigeons for interstate transportation is, and for the future will be, unreasonable to the extent that it exceeds or may exceed a rating of second class for hauls not exceeding 400 miles, subject to the excess-value provisions hereinbefore cited, and an appropriate order will be entered.

In No. 14349 we find that the classification rating assailed, in so far as applicable to interstate transportation, is not unreasonable, but that it and the corresponding rating of first class applicable to wooden furniture are, and for the future will be, unduly prejudicial to the complainants and their traffic and unduly preferential of shippers of wooden furniture in interstate commerce and their traffic to the extent that the rating on fiber or on reed furniture exceeds or may exceed the contemporaneous rating on wooden furniture. An order will be entered accordingly.

In order to correct or avoid unjustly discriminatory or unduly prejudicial and preferential interstate-intrastate rate adjustments, and agreeably with the co-operative character of this investigation, the respondent express carriers should compound, on the foregoing bases, first-class and second-class rates and graduated charges, and check in commodity rates appropriately related to those applicable interstate, for application to intrastate express traffic within the several states, and submit them to the proper authorities of the respective states in the appropriate manner. In computing the class rates between points in the same state the short-line intrastate mileage should be used in all instances, except in any instance in which that mileage would not result in an equitable or lawful adjustment and the traffic is in fact handled over an interstate route, in which event the short-line interstate mileage should be used.

With the three exceptions above indicated, we shall at this time enter no order to give effect to the foregoing findings, and the parties of record will be accorded opportunity, and are hereby cited, to show cause in writing, if any there be, on or before March 1, 1924, why those findings should not be made effective.

Commissioner Hall in a concurring opinion said:

"I am not in full accord with the conclusions of this report, but it will perhaps serve as well as another to elicit

objections and aid us in reaching a right solution. Viewed in that light I can join in putting it out."

Commissioner Aitchison did not participate in the consideration of this case.

The report also says:

"We are unable to escape the conclusion from the mass of evidence before us that to a large extent the present class rates outside of the eastern territory, particularly the long-haul rates, and more or less generally the commodity rates applicable to articles of food, deter a free use of the express service; that their effect has been deleterious to the shippers of many classes of traffic as well as to the carriers; and, conversely, that appropriate reductions in rates where warranted by operating or other conditions would encourage a more nearly normal use of the express service and be mutually advantageous. The statement on oral argument that the American Railway Express Company does not desire to stimulate an increased traffic at the expense of the rail lines is hardly consistent with the fact that the company maintains rates on such traffic and solicits the business. Apart from such revisions as are hereinafter prescribed, and keeping in mind the self-evident fact that revenues are derived from traffic, not from rates alone, we commend to the express carriers the propriety and expediency of making such voluntary further adjustments of commodity rates affecting particular commodities or movements as the mutual interests of the carriers and the shippers shall appear to warrant. The record discloses instances in which such a traffic policy would undoubtedly have augmented the express revenues in the past, aside from the benefits to accrue to the shippers. This would apply forcibly, for example, to the long-haul fruit traffic originating in zone 5. It would be in line with such a policy to establish commodity rates on fish wherever there is a substantial movement. If the predictions of shippers are realized in a logically increased volume of traffic, it may be expected that the lower levels of rates which we find reasonable will readily maintain or increase the gross express receipts. Should the shippers fail on their part to justify those predictions within a reasonable time, it may become necessary to reconsider the situation."

"Yet Lackest Thou One Thing"

Necessity of Considering Train Dispatchers' Needs in Connection With Increasing Line Capacity

By Harry W. Forman

RECENT issues of the *Railway Age* have contained articles relating to one of the most vital railroad operating problems ever discussed and one deserving of serious consideration by every officer from the president down to the trick dispatcher. After having carefully studied all that has been written in these articles concerning the problem of "How the Capacity of a Line Can be Increased" there comes to my mind the word of Jesus to the rich young ruler: "One thing yet thou lackest." Not enough thought has been given to the man behind the gun, the trick dispatcher; his needs; his present handicaps. While it is highly important to keep in mind the Ten Railroad Commandments, such as providing large terminal yards, easy leads, open track over which to move engines to and from trains, air testing plants, convenient yard offices; double track, block signals, and so on—unless adequate consideration is given to the needs of the trick dispatcher, who in the final summing up actually moves the trains, the "neck of the bottle" may be found to be on the road instead of at terminals.

What are those needs? With apologies to the author of "If Winter Comes," about all that trick dispatchers have been given an opportunity to say concerning this is to say, as Mark Sabre exclaimed in his dilemma, "Yes, but—,"—"Say, look here—." Should one ask any of the several thousands of train dispatchers throughout the country what is most lacking and is the greatest handicap to him in handling trains, his reply, without doubt, would be, (a) lack of ample side track room; and (b) being required to cover more territory than can be cared for and keep trains moving during the most congested periods of the day. As has been partly shown by others, the following are some of his most vital needs: Double track for two or three miles out of district terminals, with facilities at the ends of such tracks for letting passenger trains by, as often freight trains must wait at the end of double track for incoming trains; open offices at these points. If there is a railroad in this country which has provided enough passing sidings of the proper length, its improved operating record thus brought about should substantiate all I shall have to say concerning this handicap. About the only place where I have ever seen enough train dispatchers employed to care for any emergency promptly on a heavy-traffic single-track road, was between Nashville and Chattanooga, a distance of 141 miles, where four sets were employed when I was there last.

When time-tables are being prepared, the train dispatchers should be consulted as to the time that trains ordinarily make between stations. In the direction in which trains are superior, the time-table should provide freight train schedules to allow trains to leave the district terminal each four or six hours, according to the needs of that particular road. This enables from two to eight sections to be run on each schedule. In the opposite direction, all freight trains, including locals, should be run as extras. Under a plan of this kind, extras would meet from two to eight regular freights at one station and then ordinarily have a clear track for about four hours before having to clear another group. Before ordering a group of trains, it should be known how many engines can be furnished on time; and in sending such advice, the roundhouse foreman should allow at least 30 minutes' leeway to insure engines being ready when promised. Freight schedules should not be timed to have trains leave district terminals at the same hour that the dispatchers are changing, as it requires about one hour for the relieving dispatcher to get his bearings after sitting in.

One finds operating officers here and there who seem to be under the impression that all that is necessary to handle heavy traffic promptly is to provide double track. But even today it is rare that sidings of the necessary length and the proper distance apart are provided in adequate number, so that the dispatcher can put freight trains out of the way to allow passenger trains, or more important freight trains, to pass. It is true that occasionally the opposing track can be utilized to move trains against the current.

From experience in handling trains on both single and double track, I have found that with proper side track facilities, enough train order offices, and not too much terri-

tory to supervise, a dispatcher can move more trains in a given time on single track than on double track, if the double track has but two main lines.

The common contention is that the railroad cannot afford to install so many sidings; to employ additional telegraphers; or to reduce the territory now assigned to one set of dispatchers. My answer to these contentions is that it can be afforded. Not all in one year of course; but this objective can and should be finally attained. Make a beginning next year by providing a pair of lap sidings at some logical point on one or more single track districts, each long enough to accommodate two average freights and one passenger train. Provide a 24-hour order office at the lapping point, and establish fixed "Hold Main Track" signals at the farther end of each siding so that the dispatcher may positively instruct trains, through the operator, to come down the main track to the office, thus avoiding waste of time by taking siding unnecessarily. As the years go by, make further installations.

In answer to the contention that shorter dispatching territory cannot be afforded, it should only be necessary for the superintendent to check up the present enormous waste in overtime hours; useless consumption of fuel and loss of the use of engines and cars while trains are actually standing waiting for orders to move. How common it is to see trains held for from 30 minutes to an hour because the dispatcher is too busy with other trains. Wherever delays of this kind are observable it is a duty to make thorough investigation and it will be found that real money can be saved by employing the necessary number of train dispatchers.

In bygone years when I worked as trick dispatcher, I often had from two to ten trains waiting from 15 minutes to 2 hours for orders. During severely cold weather these trains would frequently become so frozen that they could be started only with great difficulty; and this for no other reason than that I could not get around to wait on them sooner, all of this delay and waste in overtime hours and power, was incurred, at a time when power was at a premium, for the sake of saving less than twelve dollars a day in the wages of three additional dispatchers (dispatchers then were paid $110 a month).

The movement of a freight train could be greatly facilitated by requiring the conductor to ride on the front end; then there should be no serious delay in the issuance of an occasional 31 order. It might be well to consider remodeling engines to make this practicable, building a small, suitable house in which he could ride and make out his reports. The conductor and the engineman should always be where they can communicate with each other readily. Experience has demonstrated that the fireman and the front brakeman are of little real benefit in preventing collisions, whether by calling attention to signal indications, or to train orders or to overdue superior trains.

I have worked where there was a standing order, during periods of heavy business, to "run freight trains as fast as power can be furnished." If there is a more suicidal method than this, or one which is more certain *not* to get maximum results, I have not yet encountered it. It is a physical impossibility for any dispatcher to keep trains moving under such conditions. There must be systematic ordering of trains, preferably in groups several hours apart. It is a fatuous course to make an unreasonable effort to clean up, on one day, and then to sit around and twirl one's thumbs the next.

Two chief dispatchers whom I used to know—and who have since joined the great silent majority, and, let us hope, made the grade—were lacking in one important requisite of their calling—that of looking a day or two ahead. I recall one Sunday in particular, in the fall of 1900, when 15 westbound caboose hops were called to start at noon to make a Red Oak turnaround. This was for the purpose of cleaning up a heavy grain movement, part of which should have been left until the next day, which promised to be a light one. At this time I was handling 145 miles of busy track, only 15 miles of which was double track; and when I went off duty at 4 p. m. only 11 of these extras had been started; the other four crews were still waiting in the lobby, for orders, because of my inability to get around to them. The train sheet for that day showed 156 trains. The next day trains were run eastward with less than their full tonnage.

Another case I recall about that time was the receipt of a notice from the connecting division to let freight come as usual, there having previously been a congestion of eastward freight that limited deliveries. Our chief dispatcher promptly ordered out 24 trains of grain, each consisting of 40 cars; afterward these crews ran light westward. This unusual delivery so swamped the next division that it could accept no more grain for the time being; and this made it necessary to run trains east light for several days to care for the usual run of westbound business. Still another case was one where in the evening the yardmaster notified the chief dispatcher that, after having filled all regular trains for the day, he had 30 loads left over and desired to run an extra to clean up. It developed upon questioning, that if the extra were run there would be nothing left with which to fill out the local the next morning. These are a few examples of short-sighted handling which would seem to be inexcusable; but they are the kind which occur altogether too often. I have repeatedly noticed freight rushed eastward at a time when there was a congestion beyond the division, and in a day or two thereafter a reversal in tonnage which caused unnecessary light running for the purpose of moving freight in the opposite direction.

On one occasion I was sent to a certain division to raise a blockade. Every terminal was blocked and practically every side track was more or less filled with stored cars; and eastward freight was still being accepted from the connecting division faster than it could be disposed of and at the same time keep westbound trains full. Instructions were issued to shut off the greater part of the eastward freight, only as many loaded cars being taken as could be moved with engines which could be loaded to capacity in the opposite direction. The next move was to make more room at terminals. Then the siding at every other station was cleared, filling alternate sidings to capacity, and in this way in less than a week, things were so well in hand that traffic was moving almost normally. There is nothing remarkable about this; all that is ever required is just a little constructive thinking.

There is no position on a railroad which lays a better foundation for a future successful operating officer than that of trick dispatcher.

It is sincerely hoped that the foregoing kindly meant criticisms and record of personal experiences, will appeal to receptive minds. I would bespeak the same consideration for the essays that the prize-paper writers and others have written. These should not be laid aside with the badly shopworn phrases, "Nothing can be done," or "Something should be done," meaning that no feasible way out is recognized. Every operating officer with a "problem" should he can in a practicable way to reduce the cost and delays make a painstaking investigation at once to determine just where the "neck of the bottle" is on his road; then do what now encountered in the movement of freight trains.

J. W. GREEN, who for several years has been prosecuting a suit against the Brotherhood of Locomotive Engineers for expelling him, in 1917, because of something that he said in connection with the prosecution of the war, has secured a Supreme Court decision in his favor, conditioned, however, on his accepting $12,500 instead of $17,500 which had been awarded by a jury in a lower court. Green's expulsion had the effect of invalidating his insurance policies in the association connected with the brotherhood.

General News Department

The **Northern Pacific** has given notice that beginning on January 1 the rental charge on Northern Pacific refrigerator cars when they are used by other roads is to be calculated on a mileage basis instead of by the day.

The rail mill at the Maryland plant of the Bethlehem Steel Company at Sparrows Point, Md., after having been shut down for more than five years, has been reopened, and is now beginning the rolling of rails for a number of southeastern roads.

The American Society of Civil Engineers will hold its seventy-first annual meeting at the headquarters of the society in New York on January 16-18 at which time the annual reports will be read, officers for the ensuing year elected, medals and prizes awarded and other business transacted.

The New England Railway Club will hold its regular meeting at the Copley-Plaza Hotel, Boston, on Tuesday evening, December 11. The speaker will be George E. Terwilliger, general air brake inspector of the New York, New Haven & Hartford, and his subject will be "The Evolution of Air Brakes." He will also tell about the activities of the New Haven road in the introduction of automatic train control.

Five cars of beer were among the captures of the prohibition forces in New York City last Sunday and Monday, suspicion having been directed to cars in the 65th street yard of the New York Central when a laundry wagon was backed up to a car to take a part of a load supposed to be ginger ale. The beer came from Canada and its discovery was followed by a search of loaded box cars throughout the 65th street yards.

Cartage Practice at Freight Stations

The subject of cartage practice at inter-terminal and off-track freight stations will be presented at the next meeting of the Society of Terminal Engineers on December 11, at the Engineering Societies Building, 29 West 39th street, New York City, by J. F. Murphy, vice-president, Columbia Terminals Company, St. Louis, Mo. This will be followed by both a formal and informal discussion of the subject.

Great Northern Stock Bought by Employees

During the three weeks in which the partial payment stock purchase plan of the Great Northern, described in the *Railway Age* of Nov. 17, page 936, has been in effect, 5,100 shares of stock have been sold to 700 employees. Under the plan employees may purchase the stock with an initial payment of $5 a share, followed by monthly installments as small as $3 a share until payment is completed. Installments may be paid by monthly deductions from the employee's pay and the account will be carried at six per cent interest.

Rock Island Train Control Inspected by Commission

The Chicago, Rock Island & Pacific announced on December 3 that it had completed the installation of the Regan automatic train control device on its double-track main line between Blue Island, Ill., and Rock Island, 165.4 miles. It was stated in the announcement that the final official test was made a few days ago with a special train on which were James E. Gorman, president; L. C. Fritch, vice-president, and C. A. Morse, chief engineer of the Rock Island, and their staffs; James B. Regan of New York, president of the Regan Safety Devices Company, and W. H. Harland of Washington, D. C., chief of the division of signals and train control of the Interstate Commerce Commission, and his staff. In the announcement the Rock Island claims to be the first railroad to comply with the commission's order, which requires an entire locomotive division to be equipped and tested to the satisfaction of the commission's engineers, and states that all locomotives operating on the Illinois division, both freight and passenger, are equipped with the apparatus.

It was also announced that this installation, as completed, was tested by the Interstate Commerce Commission inspectors and pronounced complete and in full compliance with the requirements of the commission.

Big Shop Improvement Program Carried Forward by Denver & Rio Grande Western

During the course of the year the Denver & Rio Grande Western has carried forward a large shop improvement program involving approximately $3,000,000. Improvements were made to shops at various points on the system, the location, estimated total expenditures and per cent completed estimated up to the end of the year being as follows: Burnham, Colo., $886,000, 28 per cent completed; Salida, Colo., $342,000, 65 per cent completed; Grand Junction, Colo., $242,000, 70 per cent completed; Alamosa, Colo., $158,400, 75 per cent completed and Salt Lake, Utah, $1,167,000, 35 per cent completed.

Special Whistles to Warn the Careless

The Missouri-Kansas-Texas, which for some time past has by a superintendent's circular required enginemen (and firemen) to be specially alert on approaching every grade crossing where automobiles may be expected, and to use the whistle very freely, has lately amended the circular by inserting a provision that, in addition to sounding the ordinary crossing signal, the engineman shall begin sounding the whistle at a point 500 ft. short of the crossing, and keep it sounding until the engine has passed over the crossing, *whenever*—

1, the view is in any manner obstructed, and,

2, persons or vehicles are seen approaching the crossing.

The original circular was copied in the *Railway Age* of June 23, 1923, page 1520.

See Editorial page for reference to letters on the whistle signal.

Expenditures for Telegraph Lines Not to Be Included in Railroad Valuation

The Interstate Commerce Commission has reconsidered its ruling in the Texas Midland valuation case, in which it held that the expenditure of the railroad toward the construction of a telegraph line along its right-of-way should be added to the cost of reproduction new of the railroad, and has decided that where a railroad company contributed toward the construction of telegraph property under a contract which provided that the property when constructed should belong to and form a part of the general telegraph system of the telegraph company and be used by both companies during a specified period of time, the contribution simply constituted a partial payment in advance on account of services to be performed and facilities to be furnished by the telegraph company during the life of the contract and that no part of the property should be inventoried as owned and used by the railroad company. The correctness of the former ruling was called into question especially by representatives of the Western Union Telegraph Company, whereupon the commission assigned the question for argument on briefs. One of the facts brought to the attention of the commission was that since its decision in the Texas Midland case the contract between the railroad and the telegraph company had been terminated and the telegraph company had disposed of its property. Commissioners McChord and Cox dissented and Commissioner Aitchison, who was absent when the decision was reached, had previously indicated his intention to vote against the adoption of the report.

Wage Statistics for September

The Interstate Commerce Commission's summary of the reports of Class I steam roads for September indicates that this is the first month, since January, 1923, in which the employment has failed to show an increase over the returns for the preceding month. The carriers reported 1,945,917 employees, a decrease of 27,588 or 1.4 per cent as compared with the number reported for August, 1923, and an increase of 237,326 or 13.9 per cent over the returns for September, 1922. This large increase in employment is due partly to the increased business of the year 1923 and partly to the fact that in September of last year the shopmen's strike was still effective on many roads. In the transportation (train and engine service) group the employment was greater in September, 1923, than in any month reported under the present classification of employees, which became effective July 1, 1921. The monthly earnings, by groups, were as follows:

	Monthly earnings of—			
	Employees reported on daily basis		Employees reported on hourly basis	
Group	September, 1923	September, 1922	September, 1923	September, 1922
Executives, officials and staff assistants	$429	$417	....	....
Professional, clerical and general.....	179	174	$120	$123
Maintenance of way and structures....	239	236	89	82
Maintenance of equipment and stores..	244	245	122	*160
Transportation (other than train, engine and yard).....	97	91	119	119
Transportation (yardmasters, switch tenders and hostlers).....	256	256	143	150
Transportation (train and engine service)	....	....	186	192

*Comparatively high earnings due to large amount of overtime worked on account of strike conditions.

Criticism of I. C. C. Accounting Rules

The Consolidated Gas Company, of New York City, which pays freight bills aggregating $5,815,956 on coal in a single year (1922) asks the Interstate Commerce Commission to be allowed to be heard in the investigation being made (Docket 15,100) into depreciation charges in railroad accounts. The gas company is joined in its petition by several other public utility companies. It is alleged that the railroads (as a whole) have charged against operating expenses excessive amounts for depreciation. These excessive deductions lessen net income of the railroads and thus have a bearing on percentage of return on capital investment on which freight rates are supposed to be based. The petitioner opposes the practice of making estimated depreciations and charging them to operating expenses. Depreciation charges in operating expenses should be restricted to those necessary to equalize from year to year the charges for extraordinary repairs and for renewals and replacements that occur irregularly.

Records show an increase in "accrued depreciation" from about $300,000,000 to about $555,000,000 on the Class I railroads from June 30, 1912, to June 30, 1916; and the charges to operating expenses for depreciation during those four years were $255,000,000 greater than was necessary to provide for all retirements of equipment and other railway property made during that period and charged against the reserve created. There were, however, certain charges made to the profit and loss account amounting to about $59,000,000 for loss on retired road and equipment. Granting this offset of $59,000,000 it is still true that the charges to operating expenses in this connection were about $196,000,000 (the difference between $255,000,000 and $59,000,000) greater than were necessary to provide for all retirements actually made during those four years. It is declared that the "accrued depreciation" account of the railroads and non-operating subsidiaries increased $423,871,292 from the beginning of 1917 to the close of 1921. Charges against profit and loss for retired equipment during the same period were $36,138,463.

Railroad property of a carrier is held for use and not for sale. When any part wears to such a point that any particular item no longer operates efficiently, it is the carrier's duty to replace it, thereby overcoming actual deterioration of the item of its property.

"It is obvious," the petition concludes, "that unless roads and equipment, on Dec. 31, 1921, were in poorer condition physically than four years earlier, actual net earnings during the period were, because of the accounting then in effect, understated by at least one-half of 1 per cent a year on the reported investment."

P. R. R. Uses Automobiles in Place of Local Freight Trains

The Pennsylvania Railroad has contracted with the Scott Transportation Company, of Philadelphia, to carry its l. c. l. freight to and from local points between that city and Wilmington, Del., 27 miles, discontinuing the local freight train heretofore operated between these cities once each way daily, except Sunday. A statement issued by the road says:

"The development of motor transportation on the public highways has relieved the railroad of a considerable portion of short distance package or less-than-carload freight to a marked degree in the densely peopled section between Philadelphia and Wilmington, and the traffic of the local freight trains no longer justifies their operation. The new plan has enabled the railroad company to dispense with the operation of two entire freight trains daily, one in each direction. All of the work performed by these trains in recent months is now being done by two motor trucks. Their greater speed in movement and flexibility of operation enable the trucks to perform the local package service from station to station with much greater efficiency than was formerly possible with regular freight train equipment.

"The new arrangement does not involve any changes in rates, or otherwise, as far as the patrons are concerned. The only difference lies in the fact that the actual transportation between stations is performed wholly or in part by motor trucks instead of by local freight trains as heretofore.

"All shipments of 10,000 lb. or over, as well as exceptionally heavy or bulky articles, will be moved in freight cars as heretofore. No change will be made in the present arrangement by which "destination" cars for package freight are loaded through from certain Philadelphia freight stations direct to Chester and Wilmington, and vice-versa, at specified times. The trucking service will be confined to the l. c. l. shipments to and from intermediate stations and from one intermediate station to another.

"It is believed that this is an important step in relieving railroad facilities so as to expedite the handling of long distance and heavy freight."

Willard A. Smith Dies

Willard A. Smith, editor and publisher of the Railway Review, Chicago, died at Evanston, Ill., on November 29, at the age of 74, failing by only a few months to complete a half century as publisher of this paper. Mr. Smith was born at Kenosha, Wis., on September 20, 1849, and was educated at Shurtleff College, Upper Alton, Ill., from which he graduated in 1869. He then took up the study of law at Washington University, St. Louis, Mo., from which he graduated in 1871. In 1874 he became the editor and later the publisher of the Railway Review. Mr. Smith was chief of the department of transportation of the World's Columbian Exposition, Chicago, in 1893, in which capacity he supervised the preparation of the transportation exhibit which attracted wide attention. Later he was director of transportation and civil engineering of the general commission of the United States to the Universal Exposition at Paris in 1900. In 1904, he served as chief of the department of transportation of the Louisiana Purchase Exposition at St. Louis. He was an American delegate to the International Railway Congress in Paris in 1900 and in Washington, D. C., in 1905. In recognition of his work in transportation incident to these expositions he was given the honors of Chevalier, Legion of Honor, France, 1901; Royal Order of the Crown, Germany, 1905, and Imperial Order of the Rising

W. A. Smith

Sun, Japan, 1905. He was a trustee of the University of Chicago from 1904 until a few months ago when he resigned on account of failing health. He was also honorary curator of the Field Columbian Museum of Natural History at Chicago.

Industrial Standardization in Germany

Standardization of industrial production has been one of the important factors in enabling Germany to maintain its industrial machine intact, in the face of the multitude of obstacles now confronting that country, states a bulletin of the American Engineering Standards Committee issued on December 6.

The extent to which industrial life in Germany has been coordinated, it is stated, is shown by the fact that more than 700 German national standards have been adopted. This includes only those in which several different industries are concerned, and which are approved by the central national body. These include fundamental engineering standards such as standard diameters, tapers, sizes of keys, threads, fits, etc.; materials; tools; measuring instruments and gages; machine parts, including handles, ball and journal bearings, etc.; gears; and sizes of paper.

An example is cited of the efficiency of national standardization as it has been developed in Germany, in the case of a rush order placed with German manufacturers for 200 locomotives for delivery to Russia. Production of different parts was allotted to 17 different manufacturers to be produced strictly upon the plan of interchangeable parts, no one manufacturer making a complete locomotive. The inspectors made a striking test of the feasibility and accuracy of the plan by ordering a complete locomotive to be assembled from parts chosen at random from the parts furnished by the 17 manufacturers. It proved to be ready for service immediately after assembly without the necessity of any disassembling for readjustment.

Standardization engineering is now said to be a recognized profession in Germany. The rapid development of standardization organizations within the companies has made a large demand for such work. An interesting development of the last few years is the appearance of consulting engineering firms specializing in standardization work. There are now five such firms in Germany.

Extensive Radio Facilities Available for Transmitting Train Orders

The American Radio Relay League has perfected arrangements so that railroads may send train orders by wireless if their wires should fail during the winter. At a meeting of the Board of Division Managers of the League in Chicago on September 14, G. T. Stanton, telegraph and telephone engineer of the Cleveland, Cincinnati, Chicago & St. Louis, representing committee No. 12, Radio and Wire Carrier Systems of the Telegraph and Telephone section of the American Railway Association outlined a plan whereby telegraph departments at railroad division points would be placed in touch with one or more amateur stations so that in an emergency the railroads could request these stations to "stand by," a number of them having apparatus strong enough to transmit from one railroad division headquarters to another. A representative of the Department of Commerce who was present said that a suitable emergency warning call would be reserved, if desired; and he expressed the opinion that infraction of the radio laws by stations performing this service would be overlooked when the nature of the service was explained.

Since the meeting F. H. Schnell, traffic manager of the American Radio Relay League at Hartford, Conn., has issued a circular letter to all members of the Radio League, outlining the proposed plan and requesting them to communicate with any neighboring superintendents of telegraph, chief dispatchers, etc. This has been supplemented by a circular from the American Railway Association to all superintendents of telegraph, enclosing a copy of Mr. Schnell's letter and attaching a list of active American Radio Relay League stations from which the superintendents will be able to select stations.

The Rocky Mountain division of the American Radio Relay League has made preparations for accommodating railroads between Denver, Colo., and Billings, Mont., so that they can transmit orders by wireless if their wires should fail during the winter. The same help will be given to the Atchison, Topeka & Santa Fe in Colorado and Kansas.

The Cleveland, Cincinnati, Chicago & St. Louis has sent a letter to all of the radio stations along its lines, requesting them to communicate with the telegraph and telephone engineer at Indianapolis, Ind., rather than with dispatchers. Within a week after this letter was sent several answers were received including an invitation to attend meetings of interested radio operators with a view to planning a tentative program for the benefit of the Big Four.

Railway Earnings for October

Class I railroads and large switching and terminal companies in October had a net railway operating income of $102,746,150. This was an increase of 20.6 per cent as compared with October last year, but represented a rate of return on an annual basis of only 4.78 per cent on the adjusted tentative valuation. For the 10 months ended October 31 the net railway operating income was $821,075,799, an increase of 33.8 per cent as compared with last year. For the 10 months the rate of return on an annual basis was 5.2 per cent, whereas for the nine months ended September 30 it was 5.27. The total operating revenues in October showed an increase of 6.9 per cent as compared with last year, while the operating expenses increased 4 per cent. Maintenance expenses, however, continued heavy, showing an increase of 8.3 per cent as compared with last October. The increase was larger in the eastern and southern districts, but in the western district there was a decrease. For the 10 months period operating revenues show an increase of 16.4 per cent as compared with last year, while operating expenses increased only 13.8 per cent. The maintenance expenditures show an increase of 17.6 per cent.

The preliminary report compiled by the Bureau of Railway Economics from the returns of the railroads to the Interstate Commerce Commission, excluding the Colorado & Southern, which had not yet reported, is as follows:

Item and district	Month of October— 1923	1922	Per cent of increase	Ten months period ended October 31— 1923	1922	Per cent of increase
Total Operating Revenues:						
Eastern District (incl. Poca. Reg.)	$283,669,546	$265,875,352	6.7	$2,718,548,318	$2,247,708,048	20.9
Southern District (excl. Poca. Reg.)	71,060,328	66,730,699	6.5	673,072,727	580,244,659	16.0
Western District	231,964,313	216,473,495	7.2	1,928,608,954	1,744,458,025	10.6
Total—United States	586,694,187	549,979,546	6.9	5,320,229,999	4,572,410,732	16.4
Total Maintenance Expenses:						
Eastern District (incl. Poca. Reg.)	114,724,395	101,945,305	12.5	992,084,344	827,557,416	19.9
Southern District (excl. Poca. Reg.)	26,627,092	22,614,293	17.7	242,361,291	201,429,473	20.3
Western District	74,092,229	74,307,173	d 0.3	692,251,591	609,150,226	13.6
Total—United States	215,443,716	198,866,771	8.3	1,926,697,226	1,638,137,115	17.6
Total Operating Expenses:						
Eastern District (incl. Poca. Reg.)	229,672,344	218,221,939	5.2	2,128,707,185	1,825,457,648	16.6
Southern District (excl. Poca. Reg.)	55,287,925	50,110,265	10.3	524,309,088	455,079,606	15.2
Western District	159,977,557	159,592,185	0.2	1,486,815,010	1,357,500,633	9.5
Total—United States	444,937,826	427,924,389	4.0	4,139,831,283	3,638,037,887	13.8
Net Railway Operating Income:						
Eastern District (incl. Poca. Reg.)	36,938,462	30,876,468	19.6	414,291,566	275,956,476	50.1
Southern District (excl. Poca. Reg.)	11,793,244	12,538,026	d 5.9	107,843,016	86,709,480	24.4
Western District	54,014,444	41,791,138	29.2	298,941,217	250,862,620	19.2
Total—United States	102,746,150	85,205,632	20.6	821,075,799	613,528,576	33.8
Rate Earned—Annual Basis:						
Eastern District (incl. Poca. Reg.)	4.02	3.44	....	5.62	3.83	....
Southern District (excl. Poca. Reg.)	5.26	5.71	....	6.09	5.00	....
Western District	5.36	4.22	....	4.49	3.84	....
Total—United States	4.78	4.05	....	5.20	3.97	....

Traffic News

The Southern Pacific has ordered from the Todd Drydock & Construction Company, Tacoma, Wash., a steamship of 11,100 tons displacement for use between New York and New Orleans. The vessel is to be 445 ft. long and 57 ft. beam with calculated speed of 15½ knots an hour.

The Missouri Pacific moved 125,132 cars of freight in November, which is 21 per cent above the record of November, 1922. The amount of corn handled during November of this year was 50 per cent greater than last year, and oats required 1,092 cars as compared with 614 in November, 1922.

Following the refusal of the Public Utilities Commission of Colorado to permit the Denver & Rio Grande Western to discontinue the operation of its line between Denver and Fort Logan, this company has placed a 60-hp. gasoline motor-driven car in operation between these points. The car is of the four-cylinder type with a capacity of 30 passengers.

Co-ordination of rail and ocean transportation is to be a main subject for discussion at the third Farmers-Manufacturers Conference to be held at Omaha, Neb., December 17 and 18, the call for which has been issued by U. S. Senator Frank B. Willis, of Ohio, as his first official act after having been elected chairman of the Middle West committee.

The directors of the Pennsylvania State Chamber of Commerce have adopted a resolution expressing opposition to the merger of the Reading (and the Central of New Jersey) either with the Baltimore & Ohio or the New York Central. The president of the chamber was authorized to employ counsel to present the views of the chamber to the Interstate Commerce Commission.

The Traffic Club of New York has chosen Paul M. Ripley, traffic manager of the American Sugar Refining Co., president of the club and W. F. Richardson, freight traffic manager of the Baltimore & Ohio, and James Thant, of the American Express Co., vice-presidents. C. A. Swope, general eastern freight agent of the Louisville & Nashville, is secretary and Fred. B. Fitzgerald, of the New York Belting & Packing Company, treasurer.

The Texas Railroad Commission has authorized the extension for six months or until May 20, 1924, of differentials or additional freight rates on the Kansas City, Mexico & Orient. On October 4, 1922, the commission authorized this road to make certain increases in freight rates to be discontinued on April 20, 1923; and to be $10 per car on carload traffic and 10 cents per 100 lb. on l. c. l. traffic. The decision was based on a showing of the road's low financial condition. On May 4, 1923, the increases were extended to October 19, 1923, based upon a further showing of the general conditions surrounding the operation of the line. The application of increases in rates on interstate traffic has been extended to February 1, 1925. Following public hearings on November 13, the Texas commission refused to authorize the extension to February 1, 1925, but fixed the date for the expiration of these increases at May 20, 1924.

Edward J. Pearson, president of the New York, New Haven & Hartford, in a statement before the Board of Army Engineers at Washington last month, advocating the improvement of port facilities at Oswego, N. Y., said that eastbound freight to the amount of 150 cars a day coming to Southern New England is subject to competitive influences which make the New Haven road, controlling owner of the New York, Ontario & Western, interested in that port. There is also a large westbound movement of manufactured goods, much of which is also subject to lake and rail competition. The lake and rail route by way of Oswego should be available as a means of avoiding the congestion of eastbound freight which sometimes occurs at Buffalo and at New York City. Mr. Pearson suggested also that the Oswego gateway should be made adequate to all demands by the time that the Canadian Government completes the enlargement of the Welland Canal, or, say, within four years.

A Call for Better Passenger Management

The Springfield Republican, discussing the request of the railroads of Massachusetts for authority to increase the price of twelve-ride tickets, makes a plea for the people who ride on single-trip tickets, saying:

The regular commuter has an advantage. Trains are run virtually at his dictation, for he is in a position to make effective complaints before the regulatory authorities. But the passengers of a long distance train who have occasion to complain of insufficient seating capacity or lateness will not be assembled again and may not pass over the route again for a month or a year. The coach accommodations on some through trains are frequently inadequate. The passengers may ride 100 or 200 miles, and often under conditions of overcrowding which insure that no one will enjoy the journey. Often, too, the arrangement of coaches on through trains is such that if those at the head end of a train are filled, the passenger seeking seats must leave the train and walk from four to six car lengths to a rear car, perhaps in the rain, and usually with bags or other incumbrances to carry. The long-distance, regular-fare coach passengers yield the railroad more revenue per car than any other class of passengers and they receive the least for their money.

Effect of Rate Reductions

Due almost entirely to reductions in freight rates, made both voluntarily and by order of the Interstate Commerce Commission, the freight bill of the people of this country was approximately $431,000,000 less in the first eight months this year than it would have been if the rates existing during the corresponding period in 1921 had remained in effect, according to estimates made by the Bureau of Railway Economics.

Compared with the rates in effect in the first eight months of 1922, the freight bill this year represents to the shippers a reduction of approximately $282,750,000 due to the voluntary reduction on agricultural products that became effective on January 1, 1922, to the general rate reduction of 10 per cent effective on July 1, 1922, and to a number of individual readjustments in freight rates.

These estimates are based on the freight traffic transported from January 1 this year to September 1, which has been the heaviest in history.

Freight rates on agricultural products have been reduced by from 11 to 12 per cent, whereas the reduction on other commodities averaged 10 per cent. Shippers of agricultural products therefore have received a greater proportional benefit from the reductions that have been made than other class of shippers, although it is impossible, owing to the varying reductions on the several farm products, to make any estimate as to how much of this saving has been on agricultural products.

The average revenue received by the railroads for carrying one ton of freight one mile in the first eight months this year was 1.109 cents, compared with 1.212 cents in 1922 and 1.266 cents in 1921. The railroads in the first eight months this year carried 274,515,221,000 tons of revenue freight a distance of one mile, compared with 205,089,401,000 tons during the corresponding period last year. The average receipts of the railroads for carrying a passenger one mile was 2.999 cents in the first eight months of 1923, compared with 3.005 cents in the same months last year.

Chicago Protests Coastwise Freight Rate Reductions

The Interstate Commerce Commission opened a hearing at Chicago on December 3 on the reduction in rates proposed by the Southern Pacific from New York to the Pacific Coast over its water-rail route that would meet the all-rail rates from Chicago to the West coast on certain commodities. The rates have been in effect since September, 1922, from New York and Philadelphia to points on the Pacific coast and intermediate territory, comprising the states of Arizona, Colorado, Utah, Nevada and California.

Those protesting against the Southern Pacific tariffs are the Atchison, Topeka & Santa Fe; the Missouri Pacific; the Illinois Manufacturers' Association; the Illinois District Traffic League; the Rockford Manufacturers' and Shippers' Association; the Burlington Shippers' Association of Burlington, Iowa; the Manufacturers' Association of Sterling, Ill.; the Oliver Chilled Plow Works of South Bend, Ind.; the Duluth Chamber of Commerce; the St. Paul Association of Public and Business Affairs; the Minneapolis Traffic Association; the Chicago Piano Manufac-

turers' Association; the Chicago Association of Commerce; the Walworth Manufacturing Company of Kewanee, Ill.; the Indiana State Chamber of Commerce, Indianapolis, Ind.; the Wisconsin Traffic Association, Chicago; and the Chicago Heights Manufacturers' Association. These protestants contend that the Interstate Commerce Commission erred in permitting the establishment of the present rate schedule and that since the last hearing on the subject conditions have changed materially. An effort was made to have the old case reopened and the record made a part of the present hearing. Examiner Stiles ruled that he had no power to do so but said that both parties might introduce the old record in their evidence.

R. N. Collyer, chairman of the Trunk Line Association outlined the position of that organization, stating that the trunk lines felt that they should be permitted a parity with the Southern Pacific in making rates to the destination territory involved which includes the majority of points on the lines of the Southern Pacific in Pacific territory. The trunk lines took no position as to what the level of the tariff should be but they did insist that they be permitted to meet such water competition by making a competitive system of rates from El Paso west.

F. H. Plaisted, assistant director of traffic of the Southern Pacific, testified that the Southern Pacific was not seeking an advantage in competition over the all-rail carriers from New York but that it was seeking to meet the competition of the Panama Canal.

Grain Rates Investigating Continued at Minneapolis

The hearing before the Interstate Commerce Commission on the petition for the adjustment of freight rates on grain, grain products and hay, which opened at Kansas City, Mo., on November 14, reconvened at Minneapolis, Minn., on November 26. Witnesses for the states included H. H. Benton, of the North Dakota College of Agriculture; L. D. Kelly, who presented testimony regarding the condition of the farmers, and H. A. Dutcher, of the Minnesota State Department of Banking, who testified that 25 state banks had been forced to close their doors in Minnesota during 1923.

Charles Donnelly, president of the Northern Pacific, outlined the $57,000,000 improvement program planned by that road for the next three years and stated that any appreciable reduction in rates would jeopardize that program. Mr. Donnelly was followed by L. E. Wettling, statistician for the Western lines who submitted tables and figures to support the claim that the economic condition of the farmers of the Western territory, including North and South Dakota, Illinois, Iowa, Kansas and Minnesota, is now better than at any time during the last two years.

On November 28 H. E. Byram, president of the Chicago, Milwaukee & St. Paul, testified that a reduction of 10 per cent in railroad rates on grain and grain products would reduce the earnings of his road approximately $2,500,000. The northwestern railroads have been unable to earn what the Transportation Act contemplated and any reductions in rates now would make conditions worse. The Chicago, Milwaukee & St. Paul ought to spend $15,000,000 a year in improvements as compared with $11,000,000 a year which has been spent in the last seven years.

W. H. Finley, president of the Chicago & North Western, testified that if the northwestern states are to have the railroad facilities warranted by their growth in the next 10 years, nearly $2,000,000,000 will have to be spent by the roads now traversing that region. He stated that the heavy traffic of this year should have produced the surplus needed to make up for the deficiencies of other years but it has not. He stated that the net railway operating income of the northwestern roads in 1923 will be about $2,000,000 less than in 1922 and $15,000,000 less than it ought to be in any year when such a volume of traffic is handled.

G. R. Martin, vice-president of the Great Northern, outlined the improvement program of that road and presented an exhibit showing the operating revenues and expenses for 1921, 1922 and nine months of 1923 which showed that the road in three years had fallen short of the 5¾ per cent fair return by $35,500,000. L. C. Fritch, vice-president of the Chicago, Rock Island & Pacific, stated that this road would require $20,000,000 a year for five years if suitable improvements and additional facilities are to be provided to care for the constantly growing traffic.

The hearing was to be continued at Spokane, Wash., on December 5.

Commission and Court News

Interstate Commerce Commission

The commission has again postponed the effective date of its interchangeable mileage ticket order from January 1 to April 1. The decision of the lower court enjoining the enforcement of this order is now pending in the United States Supreme Court for review.

The commission has denied petitions filed by the Wichita Falls & Southern and the Cisco & Northeastern, which asked the commission to determine whether passenger fares which they were required by the state of Texas to maintain for intrastate travel in that state caused undue or unreasonable advantage or prejudice as between persons or localities in intrastate commerce and interstate commerce. The commission said that the testimony of respondents' witnesses was indefinite and that there was no showing in the record of such substantial disparity when considered in connection with the interstate rates, as to result in undue preference, prejudice or discrimination.

State Commissions

The Public Service Commission of New York, after a hearing, has reaffirmed its order requiring the New York, New Haven & Hartford to make additions to its stock of electric motor passenger cars for suburban service, to provide additional shop facilities for these cars, and to lay before the commission plans for rearranging tracks at New Rochelle Junction, N. Y. The order calls for the acquirement of the new passenger cars by April 1 and for the preparation of the required track plans by January 1.

Construction of the proposed Texas, Panhandle & Gulf, whose plans to construct a line from Seymour, Tex., to Tucumcari, N. M., a distance of 303 miles, were reported in the *Railway Age* of March 31, was opposed by Hale Holden, president of the Chicago, Burlington & Quincy, at a hearing before the Railroad Commission of Texas on the proposed line's application for permission to begin construction. Mr. Holden declared that the new road could not be operated at a profit and would serve only to impair the existing lines.

In passing on an application from the Missouri Public Service Commission to force the St. Louis-San Francisco to reinstate local passenger service between St. Louis, Mo., and Newburg, and between Springfield and Monett, the Missouri Supreme Court has ruled that the commission is without power to prevent discontinuance of any passenger train. In this case the road took off the trains in spite of an order by the Public Service Commission to retain the service. The commission then filed an application for a writ of mandamus in the St. Louis Circuit Court to compel the restoration of the trains but the writ was denied. The matter was then carried to the Supreme Court which stated that "So far as service is concerned carriers may in the first instance determine for themselves its character and extent and may likewise make such changes as they deem proper. It is only when service becomes unreasonable, unsafe and inadequate that the commission may interfere."

Reparations amounting to $30,000 were awarded by the California Railroad Commission to 19 packing and cannery corporations which instituted proceedings before the commission, charging that the Southern Pacific; the Atchison, Topeka & Santa Fe.; the Northwestern Pacific and the Western Pacific had collected excessive rates for the transportation of returned empty fruit and vegetable containers in carloads during the period between March 1 and August 31, 1920. The case was argued before the commission on April 23, 1923, and the commission then held that it had authority under the Public Utilities Act to award reparations if the same was shown to be proper. A further hearing was held on October 10 to fix the actual amount of reparation at which time the carriers admitted that the rates were excessive and unreason-

able and stated that if they were not in doubt as to the commission's jurisdiction, adjustments would be made without opposition by all of the carrier defendants. The order in these proceedings requires the carriers to make the reparation payments with interest, the total amount involved being approximately $30,000.

Supreme Court of the United States

Defective Condition of Safety Appliance Proximate Cause of Injury; Employee not Engaged in Coupling

In an action for personal injuries by the conductor of an interstate freight train on a railroad under federal control, the right of recovery being based on alleged violation of section 4 of the Safety Appliance Act, the evidence showed that while the train was at a station, moving slowly, the conductor was on the side of a car, with his feet on the sill-step, about a foot from one end, holding on with his right hand to a grab-iron directly over the sill-step and 3 or 4 ft. above it. The wood of the car into which the grab-iron was bolted had rotted or been worn away, so that the bolts had a play of about an inch, permitting the grab-iron to move to that extent. The conductor signalled the fireman with his left hand to stop the train, but, instead, it moved forward with a violent jerk at accelerated speed, causing the conductor to fall. One of the wheels ran over his left arm, so that it had to be amputated. Judgment for plaintiff was affirmed by the Missouri Supreme Court, 294 Mo. 170, and the case came before the Supreme Court of the United States on writ of certiorari.

The federal manager argued that the conductor, not being engaged in coupling or uncoupling cars, was not in a situation where the defective grab-iron operated as a breach of duty imposed for his benefit by section 4 of the act. There is no previous decision of the federal Supreme Court relating to this aspect of section 4, and the court sought a controlling analogy in its decisions as to the application of section 2 of the act, dealing with automatic couplers. This section has been considered in four cases in which the injured employees were not engaged either in coupling or uncoupling or in any service connected therewith.

In two of these cases, St. Louis v. Conarty, 238 U. S. 243, in which a switch engine ran into a standing car without coupler, and Lang v. New York Central, 255 U. S. 455, in which a string of cars ran into a standing car without coupler, it was held that, the collisions not being proximately attributable to the absence of automatic couplers on the standing cars, the carriers were not liable for the injuries received by the employees, even if the collisions would not have resulted in injuries to them had the standing cars had couplers, the requirement of automatic couplers not being intended to provide a place of safety between cars brought into collision by other causes.

In Louisville v. Layton, 243 U. S. 617, the failure of couplers to work automatically in a switching operation resulted in a collision of cars, from one of which a brakeman was thrown while preparing to release brakes; and in Minnesota & St. Louis v. Gottschall, 244 U. S. 66, a brakeman was thrown from a train as the result of defective couplers coming open while the train was in motion. In these cases, the defect in the couplers being in each the proximate cause of the injury, it was held that the employees were entitled to recover.

"The rule clearly deducible from these four cases is that, on the one hand, an employee cannot recover under the Safety Appliance Act if the failure to comply with its requirements is not a proximate cause of the accident which results in his injury, but merely creates an incidental condition or situation in which the accident, otherwise caused, results in such injury; and, on the other hand, he can recover if the failure to comply with the requirements of the act is a proximate cause of the accident, resulting in injury to him while in the discharge of his duty, although not engaged in an operation in which the safety appliances are specifically designed to furnish him protection."

This construction of the act is substantially that given by the Circuit Courts of Appeals of the Second, Fourth and Sixth Circuits and by the Supreme Courts of Minnesota and West Virginia.

There being substantial evidence to show that the defective condition of the grab-iron was a proximate cause of injury to the plaintiff, while in the discharge of his duty as conductor, the case was held properly submitted to the jury under the act, and judgment for the plaintiff was affirmed. Davis v. Wolfe. Decided November 12, 1923. Opinion by Justice Sanford.

Labor News

Maintenance of way employees on the Canadian roads will soon take a strike vote if the roads continue to refuse to put into effect the recent wage increase award of the Conciliation Board, according to W. Aspinall, secretary of the central committee for Canada of the United Brotherhood of Maintenance of Way Employees.

An increase in wages of $10 a month has been granted by the Labor Board to chief engineers, assistant chief engineers, assistant engineers, firemen, deck hands, cabin watchmen and night watchmen in the employ of the Southern Pacific, the Atchison, Topeka & Santa Fe, the Northwestern Pacific and the Western Pacific who are engaged in marine service in San Francisco harbor.

An agreement has been reached on the wage schedules of the shopcrafts employees on Canadian roads, following a series of negotiations between the Railway Association of Canada, representing the roads in the Dominion, and the shopmen's representative, the Railway Employees' Department of the American Federation of Labor. No direct wage increase was granted, but certain minor adjustments in raising the classifications in some cases will have the effect of increases for certain classes.

Wage Rates of Signal Department Employees

The Labor Board has decided that the wages of all employees of the signal department of the Southern Pacific lines in Texas and Louisiana, coming under the provisions of the agreement governing employees of this department, who are receiving 68 cents an hour should be increased to 72 cents an hour under paragraph B, section 4, article V of Decision No. 1538. The contention of the road was that the wage increase referred to affected signal maintainers only, while the employees maintained that it should apply to all mechanics in the signal department and those working in the signal shops.

Labor Board Acts on Virginian Disputes

The controversies between the Virginian and its engine service employees, which led to a walkout by 400 engineers and firemen on November 8, were acted upon by the Railroad Labor Board in a series of decisions dealing with the disputes separately. Of the 12 engineers and firemen whose discharge by the management led to the strike in protest by the other engineers and firemen, the Labor Board ordered the reinstatement of ten and upheld the management in its discharge of two. The discharge of the men was brought about by their refusal to perform certain work in connection with the repair or operation of locomotives subsequent to the strike of shopmen in 1922.

Trackmen and Shopmen Get Higher Pay

Wage increases of one and two cents an hour have been granted by the Labor Board to maintenance of way employees and shop laborers on the Boston & Maine, the Fort Smith & Western, the Louisville & Nashville, the Louisville, Henderson & St. Louis, the Nashville, Chattanooga & St. Louis, the San Antonio, Uvalde & Gulf and the Trinity & Brazos Valley. These increases were ordered by the Board after the roads involved were unable to arrive at amicable agreements with their employees subsequent to Labor Board Decision No. 1861 under date of June 30, 1923, in which the Board remanded the maintenance of way employees' wage increase requests back to the roads for further efforts at adjustment. The increases ordered by the Board were not blanket increases but varied considerably on the different roads. On the Boston & Maine, the only increase was granted to crossing watchmen, who will receive an additional two cents an hour. On the Fort Smith & Western the only increase was one of one cent an hour to track laborers. On the Trinity & Brazos Valley bridge and building foremen and their assistants received an advance of two cents an hour, but the other classes on the road received no increase. On the Louisville & Nashville, the Louisville, Henderson & St. Louis and the Nashville, Chattanooga & St. Louis, with the exception of the shop laborers on the last named road, the employees received

the following increases: Bridge and building foremen and assistants, section foremen and assistants, and mechanics of the maintenance of way department, two cents an hour; mechanics' helpers, track laborers, drawbridge tenders and assistants and shop laborers, one cent an hour. Employees on the San Antonio, Uvalde & Gulf received increases as follows: Bridge and building foremen and assistants and section foremen and assistants, one cent an hour; mechanics, two cents an hour; and the remaining classes, one cent an hour.

B. L. E. Widows

A widows' pension system was put into effect on December 1 by the Brotherhood of Locomotive Engineers, following approval of the action by the board of governors of the Pension Association. Two hundred and eighty-one widows have been put on the pension list and are receiving a fixed amount each month. In addition, there will be paid to them an aggregate sum of $80,650 in back pay for pensions from the dates of their husbands' deaths. In speaking of the widows' pension, Warren S. Stone, president of the brotherhood, said: "We believe that we are the first railroad labor organization, if not the first labor organization of any kind, to pension the widows of the pension members for life. Eventually we hope that some plan will be worked out whereby not only the widows of the pension members but also the widows of all members of the brotherhood will be pensioned from the dates of their husbands' deaths."

Labor Board Decisions

No Vacation Rule for Me. C. Dispatchers

A request of the employees on the Maine Central, represented by the American Train Dispatchers' Association, that a rule governing the allowance of vacations be incorporated in the schedule of rules governing working conditions was denied by the Labor Board.—*Decision No.* 2035.

New Clerks' Election on L. A. & S. L.

The Labor Board has ordered that an election be held by the clerks and freight handlers on the Los Angeles & Salt Lake to determine representation for those employees. An election held on September 13, 1923, which was protested by the brotherhood, was declared invalid by the Board.—*Decision No.* 2048.

Interpretation of Clerical Increase Ruling

In an interpretation of Decision No. 1986, in which wage increases to clerical employees were ordered on 39 roads, the Labor Board has ordered that the increases then authorized shall be added to the rates of pay heretofore established by the Board in its decisions affecting the classes of employees covered by Decision No. 1986, namely, Decision No. 2, No. 147, No. 1074 and No. 1621.—*Interpretation No.* 1 *to Decision No.* 1986.

Payment of Wrecking Service Employees

The Railroad Labor Board, in interpretation No. 4 to decision No. 222, has held that rule 10 of addendum 6 to the decision requires that wrecking service employees shall be paid continuous time from time called until returned to home station, for all time working, waiting or traveling, at the rate of straight time for straight-time hours and overtime for over-time hours, as recognized at the home station.—*Interpretation No.* 4 *to Decision No.* 222.

Election for O.-W. R. R. & N. Clerks

The Labor Board has ordered that an election be held by clerical employees on the Oregon-Washington Railroad & Navigation Company to determine who shall represent them. The board declared invalid an election held on July 30, 1923, in which representatives belonging to the Clerical Employees' Association of the road received a majority of the votes cast. The Brotherhood of Railway and Steamship Clerks, the organization heretofore representing the clerical employees, contended that the election held was illegal, due to the fact that the organization did not join the road in the preparation and tabulation of the ballots, and the claim of illegality was upheld by the board.—*Decision No.* 2022.

Equipment and Supplies

Locomotives

THE DETROIT & TOLEDO SHORE LINE is inquiring for 3 Mikado type locomotives.

THE MOBILE & OHIO is inquiring for 3 Pacific type and 2 Mikado type locomotives.

THE WESTERN PACIFIC is inquiring for 5 Mallet type and 5 Mikado type locomotives.

THE NEW YORK, NEW HAVEN & HARTFORD is inquiring for 10, 0-8-0 switching locomotives.

THE ALABAMA & VICKSBURG has ordered three Pacific type locomotives from the Baldwin Locomotive Works.

THE COLUMBIA NAHELAN RIVER COMPANY, Carry, Ore., has ordered one Prairie type locomotive from the Baldwin Locomotive Works.

THE CLEMONS LOGGING COMPANY, Montesano, Wash., has ordered one 2-6-6-2 Mallet type locomotive from the Baldwin Locomotive Works.

Freight Cars

THE WESTERN PACIFIC is inquiring for 500 refrigerator cars.

THE SEABOARD AIR LINE has ordered 25 caboose cars from the Magor Car Corporation.

THE NEW YORK CENTRAL is inquiring for from 30 to 50 dump cars of 40 tons' capacity.

THE SOUTHERN PACIFIC is now inquiring for 3,057 refrigerator cars for the Pacific Fruit Express.

THE CARNEGIE STEEL COMPANY is inquiring for 30 coke cars of 50 tons' capacity.

THE BALTIMORE & OHIO has ordered 1,000 gondola cars from the Cambria Steel Company.

THE CHILE EXPLORATION COMPANY, New York, is inquiring for 80 gondola cars of 70 tons' capacity.

THE GUATANAMO WESTERN is inquiring through the car builders for 50 all steel cane car bodies.

THE SOUTHERN RAILWAY, reported in the *Railway Age* of December 1 as having ordered 1,000 box cars from the American Car & Foundry Co., has increased the order 2,000 cars, making a total of 3,000 cars ordered from the American Car & Foundry Co.

THE WABASH, reported in the *Railway Age* of November 10 as inquiring for 1,750 automobile cars and in the *Railway Age* of November 17 as inquiring for 250 all steel gondola cars of 70 tons' capacity, has ordered 1,750 automobile box cars from the Western Steel Car & Foundry Co., and the 250 gondola cars from the General American Car Company.

Passenger Cars

THE PENNSYLVANIA RAILROAD has bought three additional Brill model 55 gasoline rail cars from the J. G. Brill Company.

THE TUCKASEEGEE & SOUTH EASTERN has bought from the J. G. Brill Company material for mounting a motor truck on rails.

THE CHICAGO GREAT WESTERN has ordered two gasoline motor cars and trailers from the Sykes Company, Winthrop Harbor, Ind.

THE SEABOARD AIR LINE, reported in the *Railway Age* of November 10 as inquiring for 3 combination baggage and mail cars, has ordered four baggage and mail cars from the American Car & Foundry Co.

Supply Trade News

Dwight E. Robinson has been appointed manager of railway sales department for **Toch Brothers, Inc.,** 110 East Forty-second street, New York City.

Frank C. Pickard, master mechanic of the Delaware, Lackawanna & Western at Buffalo, has resigned, effective November 30, to take a position with the **Talmage Manufacturing Company** at Cleveland.

Correcting a typographical error in the *Railway Age* of November 24, page 988, announcement is made that **John D. Ristine,** heretofore with the Service Motor Company, has been appointed assistant to the vice-president of the Nason Coal Company, Chicago.

Fred A. Hansen was appointed district manager for the **Electric Heating Apparatus Company** in the Chicago territory effective with the recent termination of a sales agreement of this company with the Westinghouse Electric & Manufacturing Company. Mr. Hansen attended Northwestern University, Chicago, and the University of North Dakota and first entered railway service in 1913 on the Atchison, Topeka & Santa Fe in the track department. In 1914 he left the Santa Fe to enter the signal department of the Chicago, Rock Island & Pacific and later served the American Bell Telephone Company until he entered the army during the late war. Mr. Hansen served about a year in France in the engineering corps of the army and after the armistice he had charge of the electrical construction work at the Savenay Base Hospital center in France. Upon his return to the United States he entered the employ of the Westinghouse Electric & Manufacturing Company as industrial heating engineer handling electric furnaces and other industrial electrical heating matters. On September 1, 1923, the sales agreement between the Electric Heating Apparatus Company, Newark, N. J., and the Westinghouse Electric & Manufacturing Company was terminated and in expanding the sales and service department of the Electric Heating Apparatus Company, Mr. Hansen was appointed district manager with headquarters in Chicago.

Fred A. Hansen

N. P. Farrar has been appointed district manager of **The Pawling & Harnischfeger Company,** Milwaukee, Wis. Mr. Farrar's headquarters are at 605 Stephen-Girard building, Philadelphia, Pa., and 50 Church street, New York City.

The American Railway Signals Company, Vincennes, Ind., has been organized to take over the interests of the Julian-Beggs Train Control Company. **M. H. Hovey,** consulting signal engineer has been appointed engineer for the new organization with headquarters at Chicago.

D. B. Wright has resigned as railroad representative with Paul Dickinson, Inc., with headquarters in Chicago, to become manager of the railroad sales department of the **B. F. Nelson Manufacturing Company,** Minneapolis, Minn., manufacturers of roofing, insulating and waterproofing materials.

The Little Red Wagon Manufacturing Company, Omaha, Nebr., has purchased the business of Stroud & Company, Omaha, and will continue the manufacture of Stroud elevating graders, dump wagons, road maintainers, scrapers, drags, plows and other roadmaking machinery. The new organization will continue the Stroud parts service.

Charles K. Wehn is now in charge of a special department of the **Blaw-Knox Company,** Pittsburgh, Pa. This department is devoted to Blaw-Knox standard steel buildings and structural steel in Illinois and adjoining states. Mr. Wehn will be available for consultation and personal engineering service. His headquarters are in the company's Chicago office, Peoples Gas building.

C. L. Rice, formerly production superintendent of the Hawthorne works at Chicago of the **Western Electric Company,** and **S. S. Holmes,** general superintendent of installation of the installation department, have been promoted to assistant works managers at Hawthorne. **R. C. Dodd,** operating superintendent of the Hawthorne works at Chicago, has been promoted to assistant works manager at the new Kearny, N. J., works, this appointment to be effective on March 1, 1924.

Directors of the **Truscon Steel Company,** Youngstown, Ohio, have authorized the expenditure of $400,000 for the extension of its plant in Youngstown. The new buildings will cover two and one-half acres and will increase the floor space to 16 acres. Work will begin at once and will be finished by May 1. This company will commence at once the construction of the first building of a plant at Portland, Ore.

J. R. Sexton, railway sales manager of the **H. H. Robertson Company** with headquarters at Chicago, has also been appointed district manager with the same headquarters, succeeding H. F. Hackedorn, whose death was mentioned in the *Railway Age* of October 27, page 792. Mr. Sexton will continue as manager of railway sales in conjunction with his work as district manager. A sketch and photograph of Mr. Sexton appeared in the *Railway Age* of May 26, 1923, page 1295.

The Statistical Condition of the Passenger Car Market

	Orders		Deliveries and Retirements							
Month	Domestic orders reported during month	Total domestic orders Jan. 1 to Date	Quarter	No. owned or leased at beginning of quarter	No. installed during period	No. installed year to date	No. retired from service during quarter	No. retired year to date	No. owned or leased at end of quarter	No. under order or being constructed
January	559	....	.....	....	...	....	...	....	.....	....
February	122	681	.....	....	...	....	...	....	.....	....
March	291	972	January-March	54,257	792	....	679	....	54,370	1,586
April	179	1,151	.....	....	...	....	...	....	.....	....
May	99	1,250	.....	....	...	....	...	....	.....	....
June	52	1,302	April-June	54,370	513	1,305	555	1,234	54,328	1,450
July	66	1,368	.....	....	...	....	...	....	.....	....
August	60	1,428	.....	....	...	....	...	....	.....	....
September	47	1,475	July-September	54,327	553	1,858	531	1,765	54,349	1,231
October	118	1,593	.....	....	...	....	...	....	.....	....
November	118	1,711	.....	....	...	....	...	....	.....	....
December	...	....	.....	....	...	....	...	....	.....	....

(1) Details as to orders from *Railway Age* weekly reports. Figures include all domestic orders placed with builders and railroad shops.

(2) Figures in remaining columns from Car Service Division, A. R. A. quarterly equipment report of passenger cars, Form C. S. 55 A. Figures cover only Class I roads reporting to Car Service Division and are not therefore strictly comparable with figures given in first two columns of table.

Railway Construction

ATCHISON, TOPEKA & SANTA FE.—This company has awarded a contract to Swanson Brothers, Topeka, Kan., for the construction of a brick lavatory building at Argentine, Kan., reported in the *Railway Age* of November 24.

ATCHISON, TOPEKA & SANTA FE.—This company has awarded a contract to the Swenson Construction Company, Kansas City, Mo., for the construction of a ten-story, reinforced concrete office building at Topeka, Kans., reported in the *Railway Age* of March 31. The total cost of the building is estimated at $900,000.

ATCHISON, TOPEKA & SANTA FE.—This company has been authorized by the California Railroad Commission to construct a branch line from Los Angeles, Cal., to the Los Angeles harbor, a distance of 12 miles, reported as contemplated in the *Railway Age* of September 8. The cost of the extension is estimated at $2,000,000.

ATCHISON, TOPEKA & SANTA FE.—This company will construct at once the four-mile extension from Tonkawa, Okla., to the Three Sands oil fields, reported in the *Railway Age* of November 10. Included in this project is the construction of second track from Ponca City, Okla., to Marland, a distance of 12 miles.

BALTIMORE & OHIO.—This company has awarded contracts to the Chicago Bridge & Iron Works, New York, for furnishing and erecting water softening tanks at the following locations in Ohio: Old River, 217,000 gal.; Twin Creek, 50,000; East Dayton, 118,500; North Dayton, 230,000; Troy, 119,000; Sidney, 160,000; Lima, 216,500; Deshler, 342,000; Tontogany, two, one of 182,500 gal. and another of 89,000 gal.; Rossford, 340,000 gal. A contract has also been awarded to the same company for furnishing and erecting a 100,000-gal. tank on a 110-ft. tower for fire protection at the new Locust Point Terminal and roadside tanks for locomotive service at Grafton, W. Va., Frederick Junction, Md., and Somerset, Pa.

BALTIMORE & OHIO.—This company has awarded a contract to the Joseph E. Nelson & Sons Company, Chicago, for the construction of buildings, tank foundations, pipe installations and pumps for water treating plants at North Dayton, Ohio, East Dayton and Sidney, as reported in the *Railway Age* of November 24.

CENTRAL OF GEORGIA.—This company plans the reconstruction of a portion of its car shops at Savannah, Ga., recently destroyed by fire with a loss reported to be $500,000.

RED RIVER VALLEY.—This company contemplates the construction of a line from Grand Forks, N. Dak., to Fargo, a distance of 28 miles, at an estimated cost of $5,000,000. Among the incorporators of the company are, according to reports, W. H. Graves and C. M. Drew, of Minneapolis, Minn., and R. A. Hamilton, of Milwaukee, Wis.

SOUTHERN PACIFIC.—This company will soon call for bids for the construction of an 80-ft. by 500-ft. locomotive erecting shop with 24 engine pits and a 200-ton and two 15-ton traveling cranes, at Los Angeles, Cal., the entire project to cost $300,000.

ST. LOUIS SOUTHWESTERN.—This company plans the erection of fuel oil storage tanks at Camden, Ark., to store oil for the supply of the entire system. Plans which are being considered call for 10 tanks of 55,000 barrel capacity each. The total cost of the project is estimated at $200,000.

UNION PACIFIC.—This company has applied to the Interstate Commerce Commission for a certificate authorizing the extension of a branch line from Fort Collins, Colo., to a point approximately 18 miles therefrom in a northerly direction.

WABASH.—This company plans the construction of a 20-stall brick roundhouse at St. Thomas, Ont.

Railway Financial News

AMERICAN NIAGARA.—*Asks Authority to Issue Stock.*—This company has applied to the Interstate Commerce Commission for authority to issue $1,000,000 of stock, the proceeds to be used in payment for right of way and construction.

BALTIMORE & OHIO.—*Asks Authority for Equipment Trust Certificates.*—This company has applied to the Interstate Commerce Commission for authority for an issue of $7,000,000 of 5 per cent equipment trust certificates which it is proposed to sell to Kuhn, Loeb & Co. and Speyer & Co. at 95.

BANGOR & AROOSTOOK.—*Asks Authority to Sell Bonds.*—This company has applied to the Interstate Commerce Commission for authority to sell at not less than 95 $360,000 of 5½ per cent equipment trust certificates, the issue of which was heretofore authorized. The bonds were pledged as security for some notes which are to be redeemed.

BANGOR & AROOSTOOK.—*Authorized to Sell Equipment Trust Certificates.*—This company has been authorized by the Interstate Commerce Commission to sell $360,000 of equipment trust certificates at not less than 95.

BELT RAILWAY OF CHICAGO.—*Authorized to Issue Stock.*—This company has been authorized by the Interstate Commerce Commission to issue at par for cash, $240,000 of common stock to the Pere Marquette upon its becoming a party to an operating agreement by which the Pere Marquette will be able to make deliveries over the rails of the Belt to the other proprietary tenants.

BOSTON & MAINE.—*Government Loan Allowed.*—The Interstate Commerce Commission has granted to this company a loan of $7,000,000, of which $1,106,000 is to be used for new equipment, $3,336,000 for improvements to existing equipment and $2,559,000 for additions and betterments. The company had asked a loan of $13,565,000.

BUFFALO, ROCHESTER & PITTSBURGH.—*Authorized to Issue Bonds.*—This company has been authorized by the Interstate Commerce Commission to issue $1,500,000 of consolidated mortgage 4½ per cent bonds to be pledged as security for short term notes.

CENTRAL OF GEORGIA.—*Authorized to Issue Stock.*—The Interstate Commerce Commission has authorized an issue of $15,000,000 of common stock to be exchanged for a like amount of preferred stock.

CHICAGO & NORTH WESTERN.—*Authorized to Issue Bonds.*—The Interstate Commerce Commission has authorized an issue of $15,250,000 of first and refunding mortgage gold bonds to be sold at not less than 90½.

CHICAGO, TERRE HAUTE & SOUTHEASTERN.—*Authorized to Issue Bonds.*—The Interstate Commerce Commission has authorized this company to issue $1,969,533 of 5 per cent first and refunding mortgage gold bonds to be delivered to the Chicago, Milwaukee & St. Paul to reimburse it for the payment of $222,400 of certain other obligations of the Chicago, Terre Haute & Southeastern and for the payment of $1,673,065 by the Chicago, Milwaukee & St. Paul, for additions, betterments and extensions to the property of the C. T. H. & S. E. The St. Paul has also been authorized to guarantee the Chicago, Terre Haute & Southeastern bonds.

DENVER & RIO GRANDE WESTERN.—*Asks Authority to Acquire Line.*—This company has applied to the Interstate Commerce Commission for authority to acquire and operate 4.18 miles of road constructed by the Alamo Coal Company from Kebler No. 2 to Alamo, Colo.

GAINESVILLE & NORTHWESTERN.—*Receivership.*—The Public Service Commission of Georgia has announced that this road, which operates between Robertstown, Ga., and Gainesville, 37 miles, has been placed in the hands of a receiver.

ILLINOIS CENTRAL.—The New York Stock Exchange has stricken from the list Illinois Central 6 per cent convertible preferred stock,

series A, when issued, and has admitted to the list Illinois Central full paid and part paid subscription receipts for 6 per cent convertible preferred stock, series A.

KEOKUK & DES MOINES.—*Receivership.*—S. D. Kaufman, president of the Bankers Trust Company of Des Moines, Iowa, and F. S. Hughes of Des Moines, have been appointed receivers at the request of the bondholders' committee.

New Lease.—The receivers of the Keokuk & Des Moines have entered into a temporary agreement with the Chicago, Rock Island & Pacific, whereby the latter will operate it at the expiration of the present lease for $10,000 a month. The agreement is terminable by either party on 60 days' notice. The Rock Island will bear all operating expenses in addition to paying the rental. The $10,000 a month will be equivalent to 4 per cent interest on the Keokuk & Des Moines outstanding bonds.

LOUISIANA & NORTH WEST.—*Asks Offers to Redeem Bonds.*—The directors have asked for written offers for the redemption of approximately $12,000 of its 5 per cent first mortgage bonds, through its voluntary sinking fund. The offers will be received at the office of the company, 383 Madison avenue, New York, until noon of January 2.

PITTSBURGH & WEST VIRGINIA.—*Application to Issue Stock Denied.*—The Interstate Commerce Commission has denied this company's application for authority to issue and pledge or sell at not less than 85 $4,900,000 of its 6 per cent cumulative preferred stock to reimburse the treasury for expenditures and additions and betterments in order to provide funds to enable it to meet maturities of its subsidiary, the West Side Belt, and for other purposes. Without determining to what extent its power with respect to an issue of securities is affected by the limitation of a state regulation, the commission says that it is thought that in this matter it should be governed by the policy of the state law. The Pennsylvania state law prohibits the issue of stock at less than par.

READING COMPANY.—*Acts on Dissolution Decree.*—In compliance with the order of the United States Supreme Court, this company has petitioned the Common Pleas Court at Philadelphia, Pa., for permission to surrender the corporate powers held by certain subsidiary railroad companies. The judges fixed December 31 for a hearing.

New P. & R. Coal Trustee.—The United States District Court at Philadelphia has appointed the Wilmington Trust Company, Wilmington, Del., trustee of the stock of the new coal company to be organized as part of the plan for the dissolution of the Reading Company. The new corporation, to be organized under the laws of Delaware, will be known as the Philadelphia and Reading Coal and Iron Corporation.

Newton H. Fairbanks and Joseph B. McCall, trustees of the stock of the present coal and iron company, are to continue their services as such, except that they are relieved from the trusteeship of the new stock.

RED RIVER VALLEY—*Asks Authority to Issue Stock.*—This company, which was incorporated in Minnesota in December, 1914, for the announced purpose of constructing a line from Fargo, N. Dak., to Winnipeg, Manitoba, has applied to the North Dakota Railroad Commission for authority to issue 5,000 shares of common stock at $100 a share. It is reported that the road plans the construction of a new line from Fargo, N. Dak., to Grand Forks.

SEABOARD AIR LINE.—*Equipment Trusts Offered.*—Ladenburgh, Thalmann & Co., Redmond & Co., Kissel, Kinnicutt & Co. and Freeman & Co. are offering $1,620,000 6 per cent equipment trust gold certificates, series "W," due serially 1924 to 1937, at prices to yield 6.10 per cent.

SEABOARD AIR LINE.—*Six Months Guaranty Certified.*—The Interstate Commerce Commission has certified the amount of this company's guaranty for the six months period following the termination of federal control as $7,475,188, of which $650,188 was to be paid on the final certificate.

SOUTH GEORGIA.—*Authorized to Issue Stock.*—The Interstate Commerce Commission has authorized an issue of $197,000 of common stock to be exchanged for the stock of the West Coast on a par for par basis, and has issued a certificate authorizing the acquisition and operation of the property of the West Coast, but has denied the application for authority for an issue of $232,000 of common stock for distribution as a stock dividend as not compatible with the public interest.

ST. PAUL UNION DEPOT.—*Bonds Sold.*—A syndicate consisting of J. P. Morgan & Co., Kuhn, Loeb & Co., the First National Bank, the National City Company and Dillon, Read & Co. have sold $12,500,000 of first and refunding mortgage 5 per cent bonds, series A, at 94½, to yield more than 5.30 per cent. The issue is dated January 1, 1922, and matures January 1, 1972.

WELLINGTON & POWELLSVILLE.—*Receiver's Notice.*—J. A. Pretlow, receiver, has given notice to the creditors of this company to forward their claims to him at Franklin, Va., on or before the expiration of 60 days from November 12, 1923.

Dividends Declared

Albany & Susquehanna.—$4.50, semi-annually, payable January 1 to holders of record December 15.

Atchison, Topeka & Santa Fe.—Preferred, $2.50, semi-annually, payable February 1 to holders of record December 28.

Atlanta & West Point.—3 per cent, payable December 31 to holders of record December 23.

Beech Creek.—$0.50, quarterly, payable January 2 to holders of record December 14.

Buffalo & Susquehanna.—Common, 1¾ per cent, quarterly; common, extra, 2½ per cent; preferred, 2 per cent, semi-annually; all payable December 31 to holders of record December 15.

Lackawanna R. R. of New Jersey.—1 per cent, quarterly, payable January 2 to holders of record December 6.

Louisiana & North West.—Common, 1½ per cent, quarterly, payable January 2, to holders of record December 10.

Morris & Essex.—$2.12½, payable January 2 to holders of record December 8.

New York & Harlem.—Common, $2.50, semi-annually; preferred, $2.50, semi-annually; both payable January 2 to holders of record December 14.

New York, Lackawanna & Western.—1¼ per cent, quarterly, payable January 2 to holders of record December 14.

Pittsburgh, McKeesport & Youghiogheny.—$1.50, semi-annually, payable January 2 to holders of record December 14.

St. Louis Southwestern.—Preferred, 1¼ per cent, quarterly, payable December 31 to holders of record December 15.

Valley Railroad.—2½ per cent, payable January 2 to holders of record December 15.

Western Railway of Alabama.—3 per cent, payable December 31 to holders of record December 23.

Trend of Railway Stock and Bond Prices

	Dec. 4	Last Week	Last Year
Average price of 20 representative railway stocks	61.53	61.72	64.53
Average price of 20 representative railway bonds	82.40	82.43	85.19

Four H.P. Fairmont Motor Car Used by Division Paymaster, Seaboard Air Line, for Bi-Monthly Wage Payments to Employees Between Savannah, Ga., and Hamlet, N. C.

Railway Officers

Executive

In addition to his present duties, **Arthur P. Russell,** vice-president of the New York, New Haven & Hartford with headquarters at Boston, Mass. and New Haven, Conn., has been given jurisdiction over public relations and publicity.

Samuel Rea, president of the Pennsylvania, has been elected president of that company's subsidiary, the Long Island. **George Le Boutillier,** vice-president of the Long Island, will remain in active charge of operation of the property.

Financial, Legal and Accounting

Edgar W. Young has been appointed assistant general attorney of the Baltimore & Ohio with headquarters at Baltimore, Md., and has been chief clerk in the law department for the past eight years. Mr. Young was born at Moscow Mills, Allegany county, Maryland, and was educated in the public schools of the county and at the University of Maryland, Baltimore, receiving the degree of LL.B. from that institution in 1910. At the age of 17 he entered railroad service as stenographer in the office of the division engineer, maintenance of way, Cumberland division of the Baltimore & Ohio. He became secretary to the superintendent of that division in August, 1902, later being identified with the general superintendent's office and was transferred to the law department at Baltimore on September 1, 1906. Mr. Young was promoted to chief clerk of that department January 1, 1915.

Operating

Lawrence F. Shea, whose appointment as superintendent of communication of the New York, New Haven & Hartford was announced in the *Railway Age* of November 10, page 890, was born on January 21, 1893, at Washington, Conn. He attended the elementary and high schools of his native town and took an electrical engineering course with the International Correspondence School, Scranton, Pa. He was then employed by the Southern New England Telephone Company as a lineman and a short time later he went with the Western Union Telegraph Company in the same capacity. On July 6, 1909, he entered railway service with the New York, New Haven & Hartford as a lineman and was promoted successively to combination man, chief clerk to the superintendent, wire chief, telephone engineer and supervisor of communication, which position he held at the time of his recent promotion to superintendent of communication.

L. F. Shea

W. J. Backes has been appointed assistant general manager of the New York, New Haven & Hartford with headquarters at New Haven, Conn.

W. R. Olive has been appointed terminal trainmaster of the Seaboard Air Line with headquarters at Hamlet, N. C. **T. P. Wells** has succeeded Mr. Olive as chief dispatcher at Hamlet.

H. W. Gillette, trainmaster on the Northern Pacific, with headquarters at Jamestown, N. Dak., has resumed service as chief dispatcher at that place.

F. O. Haymond, superintendent of the Bingham & Garfield with headquarters at Magna, Utah, has been promoted to general superintendent with the same headquarters.

D. F. Milne, superintendent of the Clover Leaf district of the New York, Chicago & St. Louis, with headquarters at Frankfort, Ind., has been promoted to general superintendent, with the same headquarters, a newly created position.

E. H. Shaufler, acting general manager of the Kansas City, Mexico & Orient with headquarters at Wichita, Kan., has been promoted to general manager with the same headquarters. **R. H. Jones,** trainmaster with headquarters at Wichita, has been promoted to superintendent with the same headquarters, succeeding R. G. Carden, who has resigned.

F. H. Anderson, trainmaster on the New Orleans division of the Illinois Central, with headquarters at New Orleans, La., has been transferred to the Memphis division, with headquarters at Memphis, Tenn., succeeding **J. W. Rea,** whose appointment as inspector of transportation of the Missouri Pacific, with headquarters at St. Louis, Mo., was reported in the *Railway Age* of November 10.

Mechanical

J. R. Lancaster has been appointed superintendent of the Scranton, Pa., locomotive shops of the Delaware, Lackawanna & Western.

Silas D. Zwight, whose appointment as general mechanical superintendent of the Northern Pacific with headquarters at St. Paul, Minn., was announced in the *Railway Age* of December 1, page 1040, was born on May 23, 1867, at LaCrosse, Wis. He attended elementary school and business college and entered railway service in May, 1866, on the Chicago, Burlington & Quincy. In June, 1888, he entered the service of the Northern Pacific as a locomotive fireman on the Dakota division and has since remained continuously in the service of the Northern Pacific. He was later promoted successively to locomotive engineer, road foreman of engines, master mechanic, general master mechanic, assistant to the mechanical superintendent, mechanical superintendent and acting general mechanical superintendent, which position he held at the time of his recent promotion to general mechanical superintendent.

S. D. Zwight

R. W. Hunt has been appointed fuel supervisor of the Atchison, Topeka & Santa Fe, Coast lines and the Grand Canyon Railway, with headquarters at Los Angeles, Cal.

L. N. Reed has been appointed mechanical manager of the New York, New Haven & Hartford with headquarters at New Haven, Conn., succeeding H. C. Oviatt, resigned. **W. L. Bean,** mechanical assistant, has been appointed assistant mechanical manager.

J. M. Pierce, master mechanic on the Kansas City Southern, with headquarters at Heavener, Okla., has been transferred to the Southern division, with headquarters at Shreveport, La., succeeding G. W. Lillie, who has resigned. **F. A. Prewitt,** general roundhouse foreman at Heavener, has been promoted to master mechanic, with the same headquarters, succeeding Mr. Pierce.

H. C. Caswell has been appointed master mechanic of the Buffalo division of the Delaware, Lackawanna & Western with headquarters at East Buffalo, N. Y., succeeding F. C. Pickard, resigned to accept service with another company. **M. A. Quinn** has been appointed master mechanic of the Syracuse & Utica division and the Ithaca branch with headquarters at Binghamton, N. Y., succeeding Mr. Caswell. **M. R. Feeley** has been appointed to a similar position on the Scranton division and the Bangor & Portland division with headquarters at Scranton, Pa., succeeding B. H. Davis, assigned to other duties.

Traffic

J. J. Lane, assistant general freight agent of the Kansas City, Mexico & Orient with headquarters at Wichita, Kan., has been promoted to assistant general traffic manager with the same headquarters.

J. P. Dervin has been appointed general freight agent of the New York Central, succeeding D. E. Gelatt, promoted, and **G. H. Clark** has been appointed assistant general freight agent, both with headquarters at New York.

D. E. Gelatt has been appointed general coal freight agent of the New York Central with headquarters at New York. **J. Noble Snider,** coal traffic manager, having resigned to engage in other business, that position has been abolished.

Engineering, Maintenance of Way and Signaling

R. L. Pearson has been appointed engineer, maintenance of way of the New York, New Haven & Hartford, succeeding W. J. Backes, promoted.

Purchasing and Stores

H. S. Sackett, assistant purchasing agent of the Chicago, Milwaukee & St. Paul, with headquarters at Chicago, has resigned to enter the service of a Canadian pulp wood company.

Special

John T. Cushing has been appointed publicity agent of the Central Vermont Railway with headquarters at St. Albans, Vermont.

Obituary

F. B. Myers, formerly president of the Cleveland, Southwestern & Columbus, died at his home in Ashland, Ohio, on December 3.

James C. Lincoln, manager of the traffic bureau of the Merchants' Association of New York, died at Southern Pines, N. C., on November 28, at the age of 61; and was buried at St. Joseph, Mo. Mr. Lincoln had been at the head of the traffic department of the Merchants' Association for the last 11 years and before that had held a similar position at St. Louis for six years. He was born in Missouri and, beginning in 1876, was in the railroad service for 30 years, having been for six years general freight agent of the Missouri Pacific, and serving altogether in the freight department of that road for 18 years. He was the first president of the National Industrial Traffic League.

T. J. Wyche, consulting engineer of the Western Pacific, with headquarters at San Francisco, Cal., died in Denver, Colo., on November 27. Mr. Wyche was born in 1859 and graduated from the School of Engineering of the University of the South. He entered railway service in 1884 in the engineering department of the Union Pacific, being engaged subsequently in the construction of several water systems. During the reconstruction of the Union Pacific, he supervised the construction of the Sherman and Aspen tunnels and he was later selected to supervise the construction of the Western Pacific. During the period of federal control, he was appointed chief engineer of the corporate interests of the Denver & Rio Grande and the Western Pacific, being appointed consulting engineer for the Western Pacific in March, 1920.

B. M. Starks, general manager of the Louisville & Nashville, with headquarters at Louisville, Ky., died in that city on November 29. Mr. Starks was born on December 11, 1862, at Gordonsville, Ky., and entered railway service in 1876 as assistant agent on the Louisville & Nashville at Hadensville, Ky. In 1877, he was promoted to operator and ticket agent at Guthrie, Ky., and in June, 1886, was promoted to train master and chief dispatcher of the Owensboro & Nashville, now a part of the Louisville & Nashville, with headquarters at Russellville, Ky. In January, 1889, he was appointed trainmaster of the South and North Alabama, also a part of the Louisville & Nashville, with headquarters at Birmingham, Ala., being promoted to assistant superintendent in March, 1891. Mr. Starks was promoted to superintendent of the Louisville division and branches in January, 1898, and in January, 1900, he was appointed superintendent of terminals at Nashville, Tenn., for the Louisville & Nashville and the Nashville, Chattanooga & St. Louis. He returned to the South & North Alabama as superintendent in January, 1902, and held this position until January, 1905, when he was promoted to general manager of the Louisville & Nashville.

B. M. Starks

Sir William Mackenzie, Canadian railway financier and builder and a member of the Executive Committee of the Canadian Railways' War Board, died on December 5 after a long illness at the age of 74. Sir William was born on October 30, 1849, at Kirkfield, Ont. He received his early education in the public schools of his native district and at the Lindsay Grammar School. In his early years he was a school teacher; then for some time was engaged in the lumber business. After giving up this occupation he took a contract for constructing part of the Victoria (now the Midland division of the Grand Trunk) Railway. Later he undertook for the Canadian Pacific Railway the extension of the system through the mountains of British Columbia. In 1886 he entered into partnership with Sir Donald Mann, taking contracts for building railroads, and with his partner constructed the Canadian Northern Railway (now a part of the Canadian National). This railway was not a success financially but it has been a powerful factor in opening the country to settlement. Sir William was at the time of his death a director of many corporations.

Sir Wm. Mackenzie